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RIO BLANCO
OIL SHALE PROJECT
PROGRESS REPORT 8
SECTION 1.1
GEOLOGIC PROGRAM - INTERPRETIVE TEXT

GULF OIL CORPORATION
AND
STANDARD OIL COMPANY (INDIANA)
9725 EAST HAMPDEN AVENUE, DENVER, COLORADO 80231

PROGRESS REPORT 8

GEOLOGIC PROGRAM - INTERPRETIVE TEXT

TRACT C-a OIL SHALE DEVELOPMENT

to

AREA OIL SHALE SUPERVISOR
UNITED STATES GEOLOGICAL SURVEY

October 15, 1976

by

RIO BLANCO OIL SHALE PROJECT
Gulf Oil Corporation
and
Standard Oil Company (Indiana)

1.1 Geologic Program

The activities occurring under the geologic program during the quarterly reporting period involved: (1) completing revision of tract stratigraphic correlations and zonal resource maps based on new assay data; (2) sample preparation of 1116 feet of core split from corehole G-S 7 by the USGS for quantitative analysis of nine trace elements, and (3) completion of the 84 Mesa middle A-groove structure map. Other tasks for the most part have been completed. Table 1.0-1, page 1.0-3, is an index showing in which previous progress reports results of these tasks have been presented.

Revision of tract stratigraphic correlations and zonal resource maps was required when new Fischer assay data were obtained of core samples from the Gulf-Standard (Indiana) corehole program. The new assay data is a result of earlier check-assaying of 45 samples from coreholes G-S 4-5 and G-S 6 which indicated that the entire stratigraphic interval from the R-2 zone through the R-5 zone required reassaying in each of the holes. In addition to these reassays, short core intervals from holes G-S 2-3, 4-5, and 6 which had been initially withheld from Fischer assay for rock mechanics testing were released for assay and assays completed. This combination of new assay data constituted the basis for the geologic revisions.

The new assay data resulted in slight revision of zonal boundaries in the northeast part of Tract C-a. It also caused zonal resource map changes in the same general area. Although some zonal oil shale grades changed significantly, the overall resources of the tract were only slightly affected because some zonal grades increased while others decreased, thereby compensating for one another.

Appropriate revisions were made to the tract correlation network which consists of sets of density log cross sections and oil shale grade histogram log cross sections. Revised cross sections have been submitted to the AOSS. The revision of zonal resource maps was completed and also submitted to the AOSS.

A 1,116 foot core split from corehole G-S 7 was submitted to the USGS for quantitative analysis of nine specific trace elements. The nine trace elements are vanadium and molybdenum together with the following seven trace elements which were included in the original Rio Blanco analyses program: antimony, arsenic, boron, cadmium, fluoride, mercury and selenium. For the purpose of direct comparison between the results, the USGS analyses will be conducted on composite core intervals identical to those Rio Blanco had analyzed. The USGS will furnish

representative and sufficient sized splits of the composite samples to Rio Blanco in the event that Rio Blanco should decide to run additional check-analyses on the composite splits. Additional checking, if done, may resolve variations in analysis results due to sample preparation, sample contamination, difference in lab procedures, etc. At the end of this quarterly reporting period (August, 1976) analyses of trace elements by the USGS have not yet been completed, however, sample preparation has been completed and analysis should begin soon. Results will be reported in future progress reports as they are obtained.

- The 84 Mesa middle A-groove structure map was completed during the quarterly reporting period and transmitted to the Area Oil Shale Supervisor. The map is a compilation of all subsurface, photogeologic, and surface geologic mapping control gathered to date by RBOSP in the area of the proposed 84 Mesa off-tract disposal site.

PROGRESS REPORT 8

JUNE, JULY, AUGUST, 1976

GEOTECHNICAL DATA GATHERING PROJECT

HYDROLOGIC PROGRAM

SECTION 1.2

INTERPRETIVE TEXT

OCTOBER 15, 1976

To

AREA OIL SHALE SUPERVISOR
UNITED STATES GEOLOGICAL SURVEY

By

WRIGHT WATER ENGINEERS, INC.
For
GULF OIL CORPORATION
And
STANDARD OIL COMPANY (INDIANA)

RDOSP PROGRESS REPORT

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SURFACE WATER DATA COLLECTION PROGRAM 1

Station	Discharge		Water Quality		Precipitation		
	Instantaneous	Continuous	Data	Summary	Recording	Storage	Intensity
Box Elder Gulch near west line Tract C-a	R2, R3V1, R4	R5, R6, R7, R8	R3V1, R6V R7V, R8V	R4, R5, R6, R7, R8		R4, R4V, R5, R5V, R6, R6V, R7, R7V, R8V	
Dry Fork near west line Tract C-a						R4, R4V, R5, R5V, R6, R6V, R7, R7V, R8V	
Coral Gulch near West line Tract C-a	R2, R3, R3V1, R4	R5, R6, R7, R8	R3V1, R6V R7V, R8V	R3, R4, R5 R6, R7, R8		R4, R4V, R5, R5V, R6, R6V, R7, R7V, R8V	
Coral Gulch east of Tract C-a	R3 R3V1, R4	R5, R6, R7, R8	R3V1, R6V R7V, R8V	R3, R4, R5, R6, R7, R8			
Coral Gulch South of 84 Meas.	R5, R6	R7, R8	R6V, R7V	R5, R6, R7			
Stake Spring Draw near Confluence with Corral Gulch		R7, R8	R7V, R8V	R7, R8	R3, R3V1, R4, R4V, R5, R5V, R6, R6V, R7, R7V, R8, R8V		R5V, R6V
Yellow Creek near White River, Colorado	R2, R3, R3V1 R4,	R5, R6, R7, R8	R6V, R7V, R8V	R5, R6, R7, R8	R3, R3V, R4, R4V, R5, R5V, R6, R6V, R7, R7V, R8, R8V		R5V, R6V
Corral Gulch near Cathedral Bluffs					R3, R3Va, R4, R4V, R5, R5V, R7, R7V, R8, R8V		R5V, R6V
Tributary to Yellow Creek east of 84 Mesa		R7, R8	R7V, R8V	R7, R8			
"Rinky Dink" Gulch near east line Tract C-a		R7, R8	R7V, R8V	R7, R8			
Upper Big Duck Creek north of 84 Mesa		R7, R8	R7V, R8V	R7, R8			
Lower Big Duck Creek north of 84 Mesa		R7, R8	R7V, R8V	R7, R8			

1. LEGEND: Applies to Alluvial Aquifer Data & Deep Aquifer Data Program.

   R: RBOSP Progress Report, Hydrologic Program

   V: RBOSP Hydrologic Program Raw Data Volume

   A: RBOSP Progress Report, Hydrologic Program, Interpretive Text Appendix

   e.g.: R3V1 RBOSP Progress Report 3, Hydrologic Program, Raw Data Volume 1.

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FOR RIO BLANCO OIL SHALE PROGRESS REPORT 2-8
HYDROLOGIC PROGRAM SECTION 1.2
ALLUVIAL AQUIFER DATA

Test Hole	Drilling	Water Level	Water Quality: Field Data pH, Cond., Temp.	Water Quality: Lab. Analysis	Summary
S-6*					
S-7	R2A	R3, R4, R5, R6, R7, R8	R3, R4, R5, R6, R7, R8	R3V1, R4V, R5V, R6V, R7V, R8V	R3, R4, R5, R6, R7, R8
S-8	R2A	R3, R4, R5, R6, R7, R8	R3, R4, R5, R6, R7, R8	R3V1, R4V, R5V, R6V, R7V, R8V	R3, R4, R5, R6, R7, R8
S-11	R2A	R3, R4, R5, R6, R7, R8	R3, R4, R5, R6, R7, R8	R3V1, R4V, R5V, R6V, R7V, R8V	R3, R4, R5, R6, R7, R8
S-12	R2A	R3, R4, R5, R6, R7, R8	R3, R4, R5, R6, R7, R8	R3V1, R4V, R5V, R6V, R7V, R8V	R3, R4, R5, R6, R7, R8
S-13*	R2A				
S-14*	R2A				
S-15*	R4A				
S-16*	R4A				
S-17*	R4A				
S-18*	R4A				
S-19	R4A	R4, R5, R6, R7, R8	R4, R5, R6, R7, R8	R4V, R5V, R6V, R7V, R8V	R4, R5, R6, R7, R8
S-22	R4A	R4, R5, R6, R7, R8	R4, R5, R6, R7, R8	R4V, R5V, R6V, R7V, R8V	R4, R5, R6, R7, R8
S-23	R4A	R4, R5, R6, R7, R8	R4, R5, R6, R7, R8	R4V, R5V, R6V, R7V, R8V	R4, R5, R6, R7, R8
S-24	R4A	R4, R5, R6, R7, R8	R4, R5, R6, R7, R8	R4V, R5V, R6V, R7V, R8V	R4, R5, R6, R7, R8

* The test holes that are not referenced are dry: See Text R3, R4, R5, R6, R7, and R8.

REOSP PROGRESS REPORT

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HYDROLOGIC PROGRAM, SECTION 1.2

DEEP AQUIFER PROGRAM DATA

	DRILLING		PUMPING TEST		MONITORING		
TEST HOLE	FIELD ANALYSIS COND., pH, TEMP.	LAB ANAYLSIS	FIELD ANALYSIS COND.,pH, TEMP.	LAB ANALYSIS	LAB ANALYSIS	SUMMARY OF LAB ANALYSIS	CHEMICAL CONSISTENT DISTRIBUTION MAPS
AM-2A		R3V1			R3V1, R4V1, R5V, R7V	R3, R4, R5, R7, R8	R4, R4V
AM-3		R3V1			R3V1, R4Va, R5V, R7V	R3, R4, R5, R7, R8	R4, R4V
AM-4		R3V1					R4, R4V
CE-701		R3V1				R3, R4, R5, R7, R8	R4, R4V
CE-702		R3V1			R3V1, R4V1, R5V, R7V	R3, R4, R5, R7, R8	R4, R4V
CE-703		R3V1				R3, R4, R4, R7, R8	R4, R4V
CE-705A		R3V1	R3	R3V1		R3, R4, R5, R7, R8	R4, R4V
CE-707		R3V1			R3V1, R4V1, R5V, R7V	R3, R4, R5, R7, R8	R4, R4V
CE-708		R3V1			R3V1, R4V1, R5V, R7V	R3, R4, R5, R7, R8	R4, R4V
CE-709		R3V1			R3V1, R4V1, R5V, R7V	R4V, R5, R7, R8	R4, R4V
G-S 1	R2A	R3V1			R3V1, R4V1, R5V, R7V	R3, R4, R5, R7, R8	R4, R4V
G-S 2-3	R2A	R3V1			R3V1, R4V1, R5V, R7V	R3, R4, R5, R7, R8	R4, R4V
G-S 4-5	R2A	R3V1	R3	R3V1	R3V1, R4V1, R5V, R7V	R3, R4, R5, R7, R8	R4, R4V
G-S 6	R2A	R3V1			R3V1, R4V1, R4V, R7V	R3, R4, R5, R7, R8	R4, R4V
G-S 7	R2A	R3V1				R3, R4, R5, R7, R8	R4, R4V
G-S 8	R2A	R3V1			R3V1, R4V1, R5V, R7V	R3, R4, R5, R7, R8	R4, R4V
G-S 9	R2A	R3V1			R3V1, R4V1, R5V, R7V	R3, R4, R5, R7, R8	R4, R4V
G-S 10	R2A	R3V1			R3V1, R4V1, R5V, R7V	R3, R4, R5, R7, R8	R4, R4V
G-S 11	R2A	R3V1			R3V1, R4V1, R5V, R7V	R3, R4, R5, R7, R8	R4, R4V
G-S 12	R2A	R3V1	R3	R3V1	R3V1, R4V1, R5V, R7V	R3, R4, R5, R7, R8	R4, R4V
G-S 13	R2A	R3V1			R3V1, R4V1, R5V, R7V	R3, R4, R5, R7, R8	R4, R4V
G-S 14	R2A	R3V1				R3, R4	R4, R4V
G-S 15	R2A	R3V1			R3V1, R4V1, R5V, R7V	R3, R4, R5, R7, R8	R4, R4V
G-S D16	R2A	R3V1	R3	R3V1		R3, R4	R4, R4V
G-S D17	R2A	R3V1	R3	R3V1		R3, R4	R4, R4V
G-S D18	R2A	R3V1	R3	R3V1		R3, R4	R4, R4V
G-S D19	R2A	R3V1	R3	R3V1		R3, R4	R4, R4V
G-S M1	R2A	R3V1			R3V1, R4V1, R5V, R7V	R3, R4, R5, R7, R8	R4, R4V
G-S M2	R2A	R3V1			R3V1, R4V1, R5V, R7V	R3, R4, R5, R7, R8	R4, R4V
G-S M3	R2A	R3V1			R3V1, R4V1, R5V, R7V	R3, R4, R5, R7, R8	R4, R4V
G-S M4	R2A	R3V1			R3V1, R4V1, R5V, R7V	R3, R4, R5, R7, R8	R4, R4V
G-S M5	R4	R4V1			R4V1, R5V, R7V	R4, R5, R7, R8	
TO 1					R3V1, R4V1, R5V, R7V	R3, R4, R5, R7, R8	R4, R4V
TO 2					R3V1, R4V1, R5V, R7V	R3, R4, R5, R7, R8	R4, R4V
TO 3			R3	R3V1	R3V1	R3, R4	R4, R4

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HYDROLOGIC PROGRAM, SECTION 1.2

DEEP AQUIFER PROGRAM DATA

	COMPLETIONS		GEOHYDROLOGIC DATA				
			AQUIFER		DRILLING		
					Geophysical		
TEST HOLE	Test Hole Cross Sections	Pump Installations	Hydrologic Cross Section	Aquifer Thickness Maps	Water Velocity, Water Movement & Temp. vs. Depth	Water Production	Informal Recovery Tests
AM-2A	R2A		R2	R4			
AM-3	R2A		R2	R4			
AM-4	R2A		R2	R4			
CE-701	R2A	R3	R2	R4			
CE-702	R2A		R2	R4			
CE-703	R2A			R4			
CE-705A	R2A	R3	R2	R4			
CE-707	R2A		R2	R4			
CE-708	R2A		R3	R4			
CE-709	R2A		R3	R4			
G-S 1	R2A		R2	R4	R2A	R2A	R2A
G-S 2-3	R2A		R2	R4	R2A	R2A	R2A
G-S 4-5	R2A	R3	R2	R4	R2A	R2A	R2A
G-S 6	R2A		R2	R4	R2A	R2A	R2A
G-S 7	R2A		R2	R4	R2A	R2A	R2A
G-S 8	R2A		R2	R4	R2A	R2A	R2A
G-S 9	R2A		R2	R4	R2A	R2A	R2A
G-S 10	R2A		R2	R4	R2A	R2A	R2A
G-S 11	R2A		R2	R4	R2A	R2A	R2A
G-S 12	R2A	R3	R2	R4	R2A	R2A	R2A
G-S 13	R2A		R2	R4	R2A	R2A	R2A
G-S 14	R2A		R2	R4	R2A	R2A	R2A
G-S 15	R2A		R2	R4	R2A	R2A	R2A
G-S D16	R2A	R3	R2	R4		R2A	
G-S D17	R2A	R3	R2	R4		R2A	
G-S D18	R2A	R3	R2	R4		R2A	
G-S D19	R2A	R3	R2	R4		R2A	
G-S M1	R2A		R2	R4	R2A	R2A	R2A
G-S M2	R2A				R2A	R2A	R2A
G-S M3	R2A				R2A	R2A	R2A
G-S M4	R2A				R2A	R2A	R2A
G-S M5	R4					R4	
TO 1	R2A		R2	R4			
TO 2	R2A		R2	R4			
TO 3	R2A		R2	R4			

RBOSP PROGRESS REPORT

INDEX OF DATA FOR RIO BLANCO OIL SHALE PROGRESS REPORTS 2-8
HYDROLOGIC PROGRAM, SECTION 1.2

DEEP AQUIFER PROGRAM DATA

GEOHYDOLOGIC DATA							
PUMPING TESTS					MONITORING PROGRAM		
TEST HOLE	WATER LEVEL DRAWDOWN DATA	SEMI-LOG DRAWDOWN PLOTS	TRANSMISSIVITY AND STORAGE COEF.	TRANSMISSIVITY AND PERMEABILITY MAPS	WATER LEVELS	HYDROGRAPHS	PIEZOMETRIC SURFACE MAPS
AM-2A	R3V3	R3A	R3	R4	R3V2, R7, R7V, R8, R8V	R3A, R4A	R4, R5, R6, R7, R8
AM-3	R3V3	R3A	R3	R4	R3V2, R7, R7V, R8, R8V	R3A, R4A	R4, R5, R6, R7, R8
AM-4							
CE-701	R3V3	R3A			R3V2, R7, R7V, R8, R8V	R3A, R4A	R4, R5, R6, R7, R8
CE-702	R3V3	R3A	R3	R4	R3V2, R7, R7V, R8, R8V	R3A, R4A	R4, R5, R6, R7, R8
CE-703							
CE-705A	R3V3	R3A	R3	R4	R3V2, R7, R7V, R8, R8V	R3A	R4, R5, R6, R7, R8
CE-707	R3V3	R3A	R3	R4	R3V2, R7, R7V, R8, R8V	R3A, R4A	R4, R5, R6, R7, R8
CE-708	R3V3	R3A	R3	R4	R3V2, R7, R7V, R8, R8V	R3A, R4A	R4, R5, R6, R7, R8
CE-709	R3V3	R3A	R3	R4	R3V2, R7, R7V, R8, R8V	R3A, R4A	R4, R5, R6, R7, R8
G-S 1	R3V3	R3A	R3	R4	R3V2, R7, R7V, R8, R8V	R3A, R4A	R4, R5, R6, R7, R8
G-S 2-3	R3V3	R3A	R3	R4	R3V2, R7, R7V, R8, R8V	R3A, R4A	R4, R5, R6, R7, R8
G-S 4-5	R3V3	R3A	R3	R4	R3V2, R7, R7V, R8, R8V	R3A, R4A	R4, R5, R6, R7, R8
G-S 6	R3V3	R3A	R3	R4	R3V2, R7, R7V, R8, R8V	R3A, R4A	R4, R5, R6, R7, R8
G-S 7							
G-S 8	R3V3	R3A	R3	R4	R3V2, R7, R7V, R8, R8V	R3A, R4A	R4, R5, R6, R7
G-S 9	R3V3	R3A	R3	R4	R3V2, R7, R7V, R8, R8V	R3A, R4A	R4, R5, R6, R7, R8
G-S 10	R3V3	R3A	R3	R4	R3V2, R7, R7V, R8, R8V	R3A, R4A	R4, R5, R6, R7, R8
G-S 11	R3V3	R3A	R3	R4	R3V2, R7, R7V, R8, R8V	R3A, R4A	R4, R5, R6, R7, R8
G-S 12	R3V3	R3A	R3	R4	R3V2, R7, R7V, R8, R8V	R3A, R4A	R4, R4, R6, R7, R8
G-S 13	R3V3	R3A	R3	R4	R3V2, R7, R7V, R8, R8V	R3A, R4A	R4, R5, R6, R7, R8
G-S 14							
G-S 15	R3V3	R3A	R3	R4	R3V2, R7, R7V, R8, R8V	R3A, R4A	R4, R5, R6, R7, R8
G-S D16	R3V3	R3A	R3	R4	R3V2, R7, R7V, R8, R8V	R3A	R4
G-S D17	R3V3	R3A	R3	R4	R3V2, R7, R7V, R8, R8V	R3A	R4
G-S D18	R3V3	R3A	R3	R4	R3V2, R7, R7V, R8, R8V	R3A	R4
G-S D19	R3V3	R3A	R3	R4	R3V2, R7, R7V, R8, R8V	R3A	R4
G-S M1	R3V3	R3A	R3	R4	R3V2, R7, R7V, R8, R8V	R3A, R4A	R4, R5, R6, R7, R8
G-S M2	R3V3	R3A	R3		R3V2, R7, R7V, R8, R8V	R3A, R4A	
G-S M3	R3V3	R3A	R3		R3V2, R7, R7V, R8, R8V	R3A, R4A	
G-S M4	R3V3	R3A	R3		R3V2, R7, R7V, R8, R8V	R3A, R4A	
G-S M5							
TO 1	R3V3	R3A	R3	R4	R3V2, R7, R7V, R8, R8V	R3A, R4A	R4, R5, R6, R7, R8
TO 2	R3V3	R3A	R3	R4	R3V2, R7, R7V, R8, R8V	R3A, R4A	R4, R5, R6, R7, R8
TO 3	R3V3	R3A	R3	R4	R3V2, R7, R7V, R8, R8V	R3A	R

1.2 HYDROLOGIC PROGRAM

The purpose of the surface and subsurface hydrologic baseline program being conducted on Tract C-a for the Rio Blanco Oil Shale Project (RBOSP) is to establish baseline data. These data include: precipitation, stream flows and quality, alluvial aquifer monitoring and water quality analyses, and deep oil shale aquifer monitoring and water quality analyses.

RBOSP Progress Report 8 submits to the AOSS the hydrologic data gathered or received during the period of June through August, 1976. This hydrologic report is submitted in two parts: The Interpretive Text and a Raw Data Volume. In the Interpretive Text Volume the text, tables, and figures are the result of the data gathering program. The Raw Data Volume contains the actual data, most of which is in a computer printout form.

The following is a brief summary of the previous Quarterly Reports:

- Progress Report 2 - Contains data from the drilling program;
- Progress Report 3 - Contains data obtained during the formal pumping tests;
- Progress Report 4 - Contains a detailed hydrologic evaluation of the data gathered to that point in time;
- Progress Report 5 - Summarizes the annual hydrologic data for calendar year 1975;
- Progress Report 6 - Contains data and the interpretation for the sixth quarterly period;
- Progress Report 7 - Contains data and the interpretation for the seventh quarterly period.

The hydrologic program began in the spring of 1974. These data have been used in both environmental and engineering studies. Analyses of the water quality data to date indicate that the water will be of sufficient quality to be used in mining and processing related to oil shale development.

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1.2.1 SURFACE WATER MONITORING STATIONS

RBOSP has contracted with the Colorado River Water Conservation District to have the Water Resources Division of the USGS construct and monitor a total of eleven stream gaging stations and six rain gaging stations on or near Tract C-a. Previous RBOSP Progress Reports described the operation of these monitoring stations. Of the eleven stream gaging stations, seven monitor all significant drainages associated with Tract C-a, while the remaining four stations monitor stream flow from the site of the proposed processed shale disposal site on 84 Mesa. The three storage type rain gaging stations are located on Dry Fork, on Box Elder Gulch, and on Corral Gulch near the west line of Tract C-a. Rainfall intensity and recording-type rain gaging stations are located near the drainage divide of Cathedral Bluffs, on Stake Spring Draw near the confluence with Corral Gulch, and on Yellow Creek near White River.

Table 1.2-1 gives the USGS identification numbers and locations of the eleven stream gaging stations and the six rain gaging stations. Table 1.2-2 shows the data collection schedule for stream gaging stations.

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TABLE 1.2-1

LOCATION AND USGS IDENTIFICATION NUMBERS
FOR STREAM AND RAIN GAGING STATIONS

USGS Identification Number	LOCATION
09306237	Dry Fork near west line Tract C-a
09306235	Corral Gulch near west line Tract C-a
09306240	Box Elder Gulch near west line Tract C-a
09306242	Corral Gulch east of Tract C-a
09306230	Stake Springs Draw near confluence with Corral Gulch
09306255	Yellow Creek near White River, Colorado
09306241	Rinky Dink Gulch near east line Tract C-a
09306248	Upper Big Duck Creek north of 84 Mesa
09306250	Lower Big Duck Creek north of 84 Mesa
09306246	Tributary to Yellow Creek east of 84 Mesa
09306244	Corral Gulch south of 84 Mesa (near 84 Ranch)
	STORAGE-TYPE RAIN GAGES
09306235	Corral Gulch near west line Tract C-a
09306237	Dry Fork near west line Tract C-a
09306240	Box Elder Gulch near west line Tract C-a
	RAINFALL INTENSITY AND RECORDING RAIN GAGES
09306230	Stake Springs Draw near confluence with Corral Gulch
09306255	Yellow Creek near White River, Colorado
No number	Cathedral Bluffs located in NW¼, NW¼, Sec.14 T2S, R100W

TABLE 1.2-2

DATA COLLECTION SCHEDULE FOR STREAM GAGING STATIONS

Continuously or Automatically

- Flow Rate
- Sediment Discharge
- Temperature
- Specific Conductance

Periodically

- Storage Rain Gages
- Recording Rain Gages
- Rainfall Intensity Gages

Monthly

Water Samples Analyzed For:

- Alkalinity
- Biological Oxygen Demand
- Dissolved Organic Carbon
- Boron
- Calcium
- Conductance
- Fluoride
- Magnesium
- Potassium
- Silica
- Sodium
- Sulfate
- Ammonia
- Bicarbonate
- Carbonate
- Chloride
- Color
- Dissolved Solids
- Kjeldahl Nitrogen
- Nitrate plus Nitrite
- Odor
- Dissolved Phosphate
- Turbidity
- Dissolved Oxygen
- pH
- Temperature
- Total Phosphate
- Ortho Phosphate
- Suspended Organic Carbon

Quarterly

Sample and Analyze:

- COD
- Fecal Coliform
- Pesticides
- Polycyclic Aromatics
- Total Coliform
- Bromide
- Cyanide
- MBAS
- Oil & Grease
- Phenols
- Sulfide
- Radioactivity
  - Gross Alpha
    - 4 pci/l
    - Ra^{226}
  - Gross Beta
    - 100 pci/l
    - Sr^{90}
    - Ce^{137}
- Ba
- Be
- Ge
- Ga
- Ni
- Ti
- V
- Zr
- Al
- As
- Cd
- Cr
- Cu
- Fe
- Pb
- Li
- Mn
- Mo
- Hg
- Se
- Sr
- Zn

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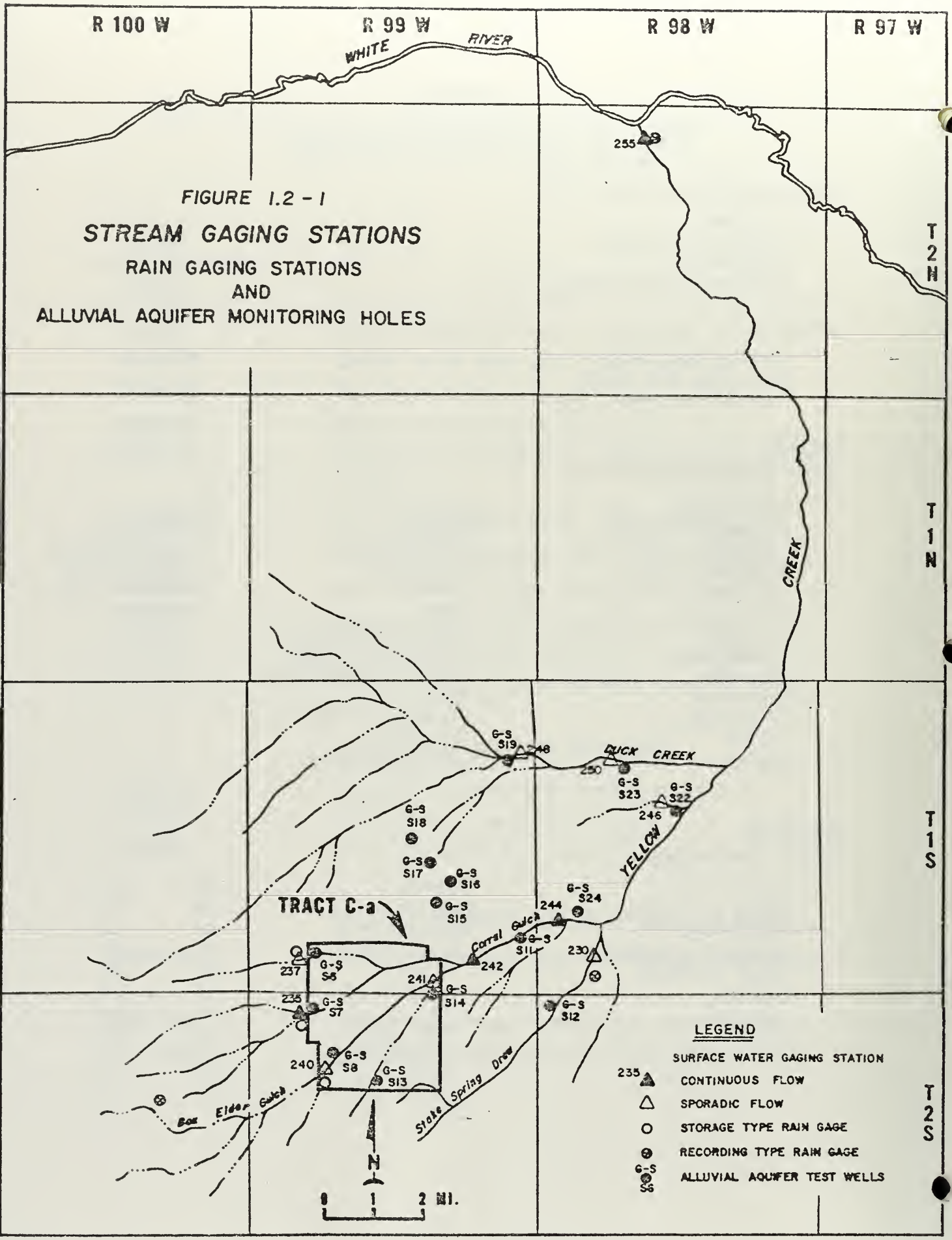

FIGURE 1.2 - 1

STREAM GAGING STATIONS
RAIN GAGING STATIONS
AND
ALLUVIAL AQUIFER MONITORING HOLES

1.2.2 SURFACE WATER DATA COLLECTION

This progress report covers the reporting period June through August. Data collected from stream gaging stations are continuous conductivity, temperature, and discharge data through mid-July, and water quality analyses through July, 1976. A lag time in USGS data processing does not allow the data presented in each Progress Report to cover the entire reporting period. The period of time represented by the data in this report will also vary because of variability in USGS data processing time.

Of the eleven stream gaging stations, five stations did not record measurable discharge this quarter. These five stations are located on Rinky Dink Gulch near east line Tract C-a, Stake Spring Draw near the confluence with Corral Gulch, the tributary to Yellow Creek east of 84 Mesa, lower Big Duck Creek north of 84 Mesa, and Dry Fork near west line Tract C-a. The station on upper Big Duck Creek north of 84 Mesa gaging station recorded only one isolated flow on May 20 and was dry for the remainder of this quarterly period. Box Elder Gulch near west line Tract C-a station recorded sporadic flow also. Corral Gulch east of Tract C-a, Corral Gulch south of 84 Mesa, Corral Gulch near west line Tract C-a, and Yellow Creek near White River are stations that measured continuous flow for the reporting period. Figures 1.2-2 through 1.2-11 show the mean continuous discharge of the eleven surface water gaging stations.

The stream gaging stations on Box Elder Gulch near west line Tract C-a reported flow during this reporting period. From early April through mid-May, no flow was measured; however, from about May 15 to May 24, flow increased to a peak of 0.8 cfs,

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and then decreased to no-flow in early July. The period of flow from May 15 to May 24 represents the longest duration of flow recorded for this station for water year 1976. Information prior to water year 1976 indicates flows averaging 0.3 cfs over a period of six days. The peak flow period for water year 1975 was recorded from May through July. During this comparative period in water year 1975, flow lasted slightly longer but showed much higher flow rates, about 1.82 cfs average.

Flows at Corral Gulch near west line Tract C-a have remained relatively stable since mid-April. Flow has averaged about 0.15 cfs. Comparing the current hydrograph (Figure 1.2-3) with the data from corresponding periods in 1974 and 1975, shows that the rapid increase in flow from late May to early June of these years did not occur in 1976. Also, average flows appear to have been greater during water years 1974 and 1975.

Corral Gulch east of Tract C-a has had recorded flow since the installation of the gage in March 1974. Flows reported for this current period are comparable to previously recorded flows in 1974 and 1975. Average flow for this reporting period was 0.6 cfs. In mid-April, flow decreased slightly to 0.55 cfs but then rose sharply on May 10, to a peak of 1.0 cfs near May 20. A decrease then followed to a low value of 0.35 cfs around June 10. Flows then tended to increase to over 0.8 cfs by July 18.

The station of Corral Gulch south of 84 Mesa during the recording period, has shown decreasing flow from 0.2 cfs to a near no-flow condition on July 20. These low values are consistent with values that occurred earlier in water year 1976.

Yellow Creek near White River showed a general downward trend with flows decreasing from about 2.1 cfs in mid-April to about 0.3 cfs on July 20. A high runoff period then occurred and flows reached 3.8 cfs. Thereafter, flows decreased and in early August averaged about 0.8 cfs. The trend that occurred in water year 1976 closely follows flow trends during the corresponding period in water year 1975, though the low flow in 1976 was less.

Some correlation between precipitation records and stream flow recording is possible over this reporting period. Stream flows increased around May 10, 20, and June 10, at which times intense precipitation occurred, figures 1.2-26 to 1.2-34.

The mean conductivity is plotted on Figures 1.2-12 through 1.2-15 for the surface gaging stations located at Corral Gulch east of Tract C-a, Corral Gulch west of Tract C-a, Corral Gulch south of 84 Mesa, and Yellow Creek near the White River. These are the only four stations from which the USGS reported continuous mean conductivities.

Continuous mean conductivity for Corral Gulch near west line Tract C-a is included for water year 1976. Data is not collected during the winter from the stations which have recorded only intermittent spring and summer flows. Should unusual winter flows be observed, the stations will be reactivated. Conductivity from April through July averaged about 400 umhos/cm. A conspicuous increase starting in mid-June reached 800 umhos/cm but decreased to the average value in late June. During the same period, the water temperature dropped from 28° to 8° C. with no increase in flow noted. This decrease in temperature and correlative increase in conductivity may indicate spring or seep contribution to stream flow.

The continuous mean conductivity for Corral Gulch east of Tract C-a from mid-April declined from 1300 umhos/cm to about 800 umhos/cm by May 20. Conductivity increased to 1650 umhos/cm

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on June 8, which was followed by a decrease to 1200 umhos/cm in late June. Conductivity increased to about 1400 umhos/cm by mid-July. The average values compared to the last reporting period are somewhat higher, about 1300 umhos/cm compared to 1100 umhos/cm. Due to sporadic records in previous years, correlations are not possible for this parameter.

Continuous mean conductivity records for Corral Gulch south of 84 Mesa, though sporadic, show an increased trend from mid-April through early June, averaging 1400 umhos/cm which is similar to values reported for the previous quarter. An increase occurred during late June which eventually reached 3300 umhos/cm about July 12. A rapid decrease then occurred, down to 1800 umhos/cm by July 20.

Due to instrument malfunction, only sparce data on conductivity for Yellow Creek near White River were received for this reporting period. No data exist from mid-April through July 20. Thereafter, values ranged from 1150 umhos/cm to over 2200 umhos/cm.

A good correlation between changes in stream flow at a particular station on or near Tract C-a and conductivity was not consistently possible, in part due to missing data.

The mean temperature data collected for four of the perennial stream gaging stations, Corral Gulch near west line Tract C-a, Corral Gulch east of Tract C-a, Corral Gulch south of 84 Mesa, and Yellow Creek near White River, are shown on Figures 1.2-16 through 1.2-19. The general mean temperature shows a warming trend as the seasonal temperatures increase during the summer.

Continuous mean termperature for Corral Gulch near west line Tract C-a is presented as new data. During winter months, November through February, data was not collected. Data are

presented from early March through mid-July. Though many fluctuations occurred, the increasing trend went from about 8° C. in early March to about 30° C. in mid-July. During this period a rapid decrease occurred about June 10. The temperature dropped from 28° C. to 8° C. due to a cold front and then rose quickly to about 30° by early July.

The station on Corral Gulch east of Tract C-a temperature data have fluctuated since mid-April but have shown a rapid increase from about 9.5^{o} C. to about 15° C from mid-June to mid-July. Strong decreases and then recoveries occurred about May 5 and May 25. Low temperatures of 7° C. were recorded during these decreases. A comparable decrease was also noted during the same period in water year 1975.

Corral Gulch south of 84 Mesa stream flow temperature data showed a fluctuating but generally increasing trend from 8° C. to 13.5^{o} C. A strong temperature increase occurred in mid-May reaching over 18° C. A rapid decline then occurred.

Yellow Creek near White River temperature data were not collected from mid-April through July. Early August data show a declining trend with an average value of about 27° C.

Instantaneous boron and fluoride analyses for Rinky Dink Gulch near east line Tract C-a, Box Elder Gulch near west line Tract C-a, Corral Gulch east of Tract C-a, Corral Gulch south of 84 Mesa, Corral Gulch near west line Tract C-a, and Yellow Creek near White River are shown on Figures 1.2-20 through 1.2-25. Values have remained relatively stable since mid-April. Yellow Creek water had the highest concentrations of boron and fluoride, averaging 0.7 mg/l and 2.6 mg/l respectively. Values from the other stations averaged from 0.2 to 0.4 mg/l for fluoride, and less than 0.1 to 0.2 mg/l for boron.

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Tables 1.2-3 through 1.2-9 show concentrations of the chemical constituents from surface stream gaging sites as reported by the USGS during this quarterly period. It should be noted that these data are preliminary and subject to correction and revision. RBOSP has received stream sediment data for the water year 1976, but the data will not be presented until after the end of the water year at the request of the USGS.

Water quality analyses by the USGS from the stream gaging stations on Box Elder Gulch near the west line tract, Corral Gulch near the west line tract, Corral Gulch east of tract, Corral Gulch south of 84 Mesa, and Yellow Creek near the White River are shown on Tables 1.2-3 through 1.2-9. These analyses were made using both wet chemical and spectrographic methods. In some cases, the minimum detectable values vary due to either increased sensitivity of the test or because of the comparative nature of the spectrographic analysis. In general, data as reported for this period conform with previous values. Yellow Creek continues to show highest concentrations of many constituents. Box Elder Gulch station near west line tract generally has the lowest concentrations of the five stations. Certain constituents show substantial variation within this calendar year for each station. These are aluminum, aromatics (polycyclic), kjeldahl nitrogen, ammonia nitrogen, organic carbon, and phosphate. Constituents that show fairly similar values over the five stations are arsenic, dissolved oxygen, fluoride and lithium.

Stations for which no new data were obtained for this quarter because of no flow are Rinky Dink Gulch near east line Tract C-a, Stake Springs Draw near confluence with Corral Gulch, upper and lower stations on Big Duck Creek, and the tributary to Yellow Creek east of 84 Mesa.

Box Elder Gulch near west line tract has new data for May and June. Most constituent values are below those of the other

stations. Substantially lower values compared to other stations continue to be alkalinity, conductivity, hardness, sodium, dissolved solids, suspended solids, strontium, and sulfate. Many constituents as tested over the calendar year have been variable. These are bicarbonate, boron conductivity, iron, lithium mercury, nitrite plus nitrate, phosphorus, potassium, silica, dissolved solids, strontium, gross alpha, gross beta, organic carbon, and phosphate. Because in most cases constituents have been tested only twice this year, no trends of increasing or decreasing constitutent concentrations are apparent. The March 18 sample was probably influenced by snowmelt, while the May 25 sample shows extreme leaching of soluble salts from the soil due to sustained moderate rainfall before sampling.

Corral Gulch near west line tract has new information for May, June, and July. Compared to quality from the other stations, Corral Gulch shows consistently low values for alkalinity, bicarbonate, and boron; i.e. average values of 295 mg/l, 360 mg/l, and 100 mg/l, respectively. In general, values have remained relatively stable over the calendar year, excepting ammonia, kjeldahl nitrogen, and organic carbon. In July, substantially higher values were found for color, kjeldahl nitrogen, potassium, selenium, temperature, and dissolved carbon.

Corral Gulch east of tract has new data for the months of April, May, June and July. A low value compared to other stations is magnesium which averages 64 mg/l. Constituents that appear to vary are ammonia, aromatics, color, kjeldahl nitrogen, nitrite plus nitrate, ammonia nitrogen, organic carbon and phosphate. Constituents that have shown marked increases for July are aluminum, color, kjeldahl nitrogen, temperature, and organic carbon. Items that have decreased are magnesium, and nitrite plus nitrate. Analyses that have fluctuated over calendar year 1976 are aluminum, ammonia, conductivity, iron, kjeldahl nitrogen, magnesium, nitrite plus nitrate, organic carbon, and phosphate.

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Corral Gulch south of 84 Mesa has new data for May and June. constituents that have proven to be relatively high compared to other stations include barium, hardness, magnesium, and calcium, with averages respectively in order of 150 mg/l, 690 mg/l, 102 mg/l, and 107 mg/l. Items that have increased for this period are aluminum, arsenic, mangenese, phosphorus, and dissolved organic carbon. Decreases are noted in aromatics and bicarbonate. Many constituents appear to fluctuate. These are aromatics, arsenic, barium, dissolved oxygen, manganese, nitrite plus nitrate, nitrogen, phosphorus, and phosphate.

New data for Yellow Creek near White River are presented for the months of April, May, and June. As in the past, many constituents show relatively high values compared to other stations. A few values, however, are consistently low. These are silica and calcium with averages of 12 mg/l and 29 mg/l. Few values seem to have increased. Decreases are noted in dissolved oxygen, nitrite plus nitrate, ammonia nitrogen, phosphorus, and phosphate. Fluctuating values occurred in ammonia, aromatics, barium, carbonate, iron, kjeldahl nitrogen and phosphorus. Yellow Creek shows an anomalous increase in some of the parameters due to leaching of soluble salts from the soil caused by sustained moderate rainfall before sampling. Compared to smaller basins, Yellow Creek appears to have higher concentrations of all parameters due to greater groundwater discharge into Yellow Creek which probably serves as a regional drain.

There are three types of precipitation gages used for collecting data by the USGS for RBOSP: Storage precipitation gages allow precipitation to be collected and measured periodically, a recording type gage allows the measurement of precipitation on a daily basis, and a rainfall intensity gage records the time of each rainfall event and measures precipitation depth at time increments of five minutes. Locations of the precipitation gaging stations are shown in Figure 1.2-1.

Recording type precipitation data from near Cathedral Bluffs, Stake Springs Draw, and Yellow Creek indicate that widespread precipitation occurred around May 8, May 20, mid-June, and July 18. A very dry period was noted in late June and early July. In general, the greatest intensity of precipitation events recorded were at the Cathedral Bluffs station. Of the approximately 30 precipitation events recorded at each station over the tract, the Cathedral Bluffs station averaged 0.24 inch, with a maximum value of 0.87 inch. Stake Springs Draw values averaged 0.12 inch with a maximum value of 0.74 inch. The Yellow Creek gage recorded an average fall of 0.10 inch with a maximum value of 0.50 inch.

Storage type precipitation gages from Dry Fork Gulch, Box Elder Gulch, and Corral Gulch generally correlated for relative amounts of precipitation over the same time period. Therefore, widespread events did occur with all stations showing an apparent dry spell in early July. A summary of recording and storage type rain gage data for the months of April through August is shown on Figures 1.2-26 and 1.2-31.

Two precipitation events during this reporting period demonstrate the intensity of convection type storm systems within the Piceance Creek basin. On July 25, 1976, a storm which registered 0.87 inch at the Cathedral Bluffs recording gage caused flooding along Piceance Creek, and mud flows 2 to 3 feet deep across Piceance Creek Road in the upper portion of the basin near Rio Blanco, Colorado. No record of the event was recorded at the Stake Springs rain gage station while at the Yellow Creek station only 0.05 inch was recorded. On the evening of July 31, 1976, a storm system moved across Piceance Creek basin resulting in Cathedral Bluffs rain gaging station recording 0.05 inch. Stake Springs rain gage station recorded 0.38 inch, and the Yellow Creek station recorded 0.50 inch. Localized effects could be seen from this storm in various areas. Mud flows occurred and hillsides were covered by small rivlets.

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TABLE 1.2-3
SUMMARY WATER ANALYSIS
STREAM GAGING STATION, USGS 09306240
BOX ELDER GULCH NEAR WEST LINE TRACT C-a
YEAR 1976

	Mar. 18	May 25	June 24								
1. Alkalinity (mg/l)	74	254									
2. Aluminum (ug/l)	40	--	130								
3. Ammonia (mg/l)	.32	.01									
4. Aromatics, Polycyclic											
5. Arsenic (ug/l)											
6. Barium (ug/l)	50	--	70								
7. Beryllium (ug/l)	<1	--	<5								
8. Bicarbonate (mg/l)	90	310									
9. Bismuth (ug/l)	<4	--	<15								
10. Boron (ug/l)	110	60									
11. Cadmium (ug/l)	1										
12. Carbonate (mg/l)	0	0									
13. Carbon Dioxide (mg/l)											
14. Chloride (mg/l)	3.0	5.5									
15. Chromium (ug/l)	<3	--	<10								
16. Cobalt (ug/l)	<3	--	<10								
17. COD	100										
18. Coliform, Total & Fecal											
19. Color (PCU)	100	12									
20. Conductivity, Specific		750									
21. Cooper (ug/l)	13										
22. Cyanide (mg/l)	.00										
23. Discharge (CFS)											
24. Discharge, Instantaneous	.01	.57									
25. Dissolved Oxygen (mg/l)		6.7									
26. Fluoride (mg/l)	.1	.3									
27. Gallium (ug/l)	<1	--	<5								
28. Germanium (ug/l)	<3	--	<20								
29. Hardness (Ca, Mg) (mg/l)	65	310									
30. Hardness, Non-Carbonate (mg/l)	0	53									
31. Iron (ug/l)	380	--	30								
32. Kjeldahl Nitrogen (mg/l)	30	.42									
33. Lead (ug/l)	13		<10								
34. Lithium (ug/l)	10		20								
35. Magnesium (mg/l)	5.4	42									
36. Manganese (ug/l)	30	--	<7								
37. Mercury (ug/l)	.0										
38. Molybdenum (ug/l)	3	--	40								
39. Nickel (ug/l)	<3	--	<10								
40. Nitrate (mg/l)											
41. Nitrite (mg/l)											
42. Nitrite Plus Nitrate (mg/l)	.23	.72									
43. Nitrogen, Ammonia	.25	.01									
44. Odor (Severity)											
45. Oil & Grease (mg/l)	2										
46. Ortho-Phosphate (mg/l)											
47. Ortho-Phosphorus (mg/l)	.35	.0									
48. Pesticides	0										
49. pH	8.1	8.1									
50. Phosphorus, Total (mg/l)	.81	.56									
51. Potassium (mg/l)	11	1.0									
52. Selenium (ug/l)	0										
53. Silica (mg/l)	3.2	24									
54. Silver (ug/l)	0	--	<2								
55. Sodium (mg/l)	2.7	51									
56. Sodium Adsorption Ratio	.1	1.3									
57. Sodium (%)	7	26									
58. Solids, Dissolved (mg/l)	95	474									
59. Solids, Dissolved T/D	.00	.73									
60. Solids, Dissolved T/Ac-Ft	.13	.64									
61. Solids, Suspended											
62. Strontium (ug/l)	190	--	920								
63. Sulfate (mg/l)	5.5	140									
64. Sulfide (mg/l)	.2	--									
65. Temperature (°C)	3.0	24									
66. Tin (ug/l)	<5	--	<10								
67. Titanium (ug/l)	<1	--	<7								
68. Turbidity (JTU)											
69. Vanadium (ug/l)	<3.0	--	<10								
70. Zinc (ug/l)	30	--	0								
71. Zirconium (ug/l)	<5	--	<20								
72. Calcium (mg/l)	17	54									
73. Complete Element Span											
74. Radioactivity											
Gross Alpha (pci)	4.7	--	11								
Radium 226*											
Gross Beta	16.4	--	4.8								
Thorium 230**											
Uranium**											
75. Total Organic Carbon (mg/l)	36.4										
If TOC >10 mg/liter, then											
Nitrogen (Base Extraction)	30	.41									
Organic Carbon, Dissolved	34	4.2									
Organic Carbon, Suspended	2.4	--									
Phenols											
Sulfur (Acid Extraction)											
76. Total Ortho-Phosphorous (mg/l)	.35										
77. Phosphate	2.5	1.7									
78. Phosphorus, Dissolved											

TABLE 1.2-4

SUMMARY WATER ANALYSIS
STREAM GAGING STATION, USGS 90306235
CORRAL GULCH NEAR WEST LINE TRACT C-a
YEAR 1976

	Jan. 02	May 25	June 24	July 21							
1. Alkalinity (mg/l)	343	278	267	294							
2. Aluminum (ug/l)	32	--	52	--							
3. Ammonia (mg/l)	.12	.03	.03	.05							
4. Aromatics, Polycyclic											
5. Arsenic (ug/l)	4	--	7	--							
6. Barium (ug/l)	60	--	70	--							
7. Beryllium (ug/l)	<3	--	<6	--							
8. Bicarbonate (mg/l)	418	339	325	353							
9. Bismuth (ug/l)	<15	--	<20	--							
10. Boron (ug/l)	80	90	110	120							
11. Cadmium (ug/l)	7	--	1	--							
12. Carbonate (mg/l)	0	0	0	0							
13. Carbon Dioxide (mg/l)											
14. Chloride (mg/l)	11	12	8.0	8.8							
15. Chromium (ug/l)	<15	--	10	--							
16. Cobalt (ug/l)	<15	--	<15	--							
17. COD	12	--	5	--							
18. Coliform, Total & Fecal											
19. Color (PCU)	5	8	4	25							
20. Conductivity, Specific	1100	1050	1050	1000							
21. Copper (ug/l)	5	--	5	--							
22. Cyanide (mg/l)	.00	--	.0	--							
23. Discharge (CFS)											
24. Discharge, Instantaneous	.50	.10	.03	.10							
25. Dissolved Oxygen (mg/l)		7.5	--	6.8							
26. Fluoride (mg/l)	.3	.3	.3	.3							
27. Gallium (ug/l)	<7	--	<6	--							
28. Germanium (ug/l)	<40	--	<20	--							
29. Hardness (Ca, Mg) (mg/l)	490	400	390	410							
30. Hardness, Non-Carbonate (mg/l)	140	120	120	120							
31. Iron (ug/l)	30	--	30	--							
32. Kjeldahl Nitrogen (mg/l)	.69	.37	.42	.84							
33. Lead (ug/l)	<15	--	3	--							
34. Lithium (ug/l)	20	--	20	--							
35. Magnesium (mg/l)	60	58	58	58							
36. Manganese (ug/l)	20	--	<10	--							
37. Mercury (ug/l)	.0	--	.0	--							
38. Molybdenum (ug/l)	40	--	50	--							
39. Nickel (ug/l)	<15	--	<15	--							
40. Nitrate (mg/l)											
41. Nitrite (mg/l)											
42. Nitrite Plus Nitrate (mg/l)	1.1	.52	.28	.53							
43. Nitrogen, Ammonia	.09	.02	.02	.05							
44. Odor (Severity)											
45. Oil & Grease (mg/l)	0	--	8	--							
46. Ortho-Phosphate (mg/l)											
47. Ortho-Phosphorus (mg/l)	.00	.0	.02	.0							
48. Pesticides	0										
49. pH	--	7.9	8.1	8.3							
50. Phosphorus, Total (mg/l)	.02	.01	.01	.09							
51. Potassium (mg/l)	1.5	1.4	1.5	2.8							
52. Selenium (ug/l)	2	--	4	--							
53. Silica (mg/l)	19	20	18	22							
54. Silver (ug/l)	<2	--	<2	--							
55. Sodium (mg/l)	84	85	94	93							
56. Sodium Adsorption Ratio	1.7	1.8	2.1	2.0							
57. Sodium (%)	27	31	35	33							
58. Solids, Dissolved (mg/l)	793	681	701	723							
59. Solids, Dissolved T/D	.11	.18	.17	.20							
60. Solids, Dissolved T/Ac-Ft	1.08	.93	.95	.98							
61. Solids, Suspended											
62. Strontium (ug/l)	1300	--	1700	--							
63. Sulfate (mg/l)	310	270	300	290							
64. Sulfide (mg/l)	.0	--	.5	--							
65. Temperature (°C)	.5	23.0	24.5	30.0							
66. Tin (ug/l)	<15	--	<15	--							
67. Titanium (ug/l)	<10	--	<10	--							
68. Turbidity (JTU)											
69. Vanadium (ug/l)	<15	--	<15	--							
70. Zinc (ug/l)	10	--	0	--							
71. Zirconium (ug/l)	<40	--	<30	--							
72. Calcium (mg/l)	95	65	58	69							
73. Complete Element Span											
74. Radioactivity											
Gross Alpha (pci)	<9.8	--	<10.3	--							
Radium 226*	0.8	--	--	--							
Gross Beta	5.2	--	2.8	--							
Thorium 230**											
Uranium**											
75. Total Organic Carbon (mg/l)	16.5										
If TOC >10 mg/liter, then											
Nitrogen (Base Extraction)											
Organic Carbon, Dissolved	14	4.6	7.4	16							
Organic Carbon, Suspended	2.5	--	.3	.0							
Phenols											
Sulfur (Acid extraction)											
76. Total Ortho-Phosphorus (mg/l)	.00										
77. Phosphate	.06	.03	.03	[illegible]							
78. Phosphorus, Dissolved											

RBOSP PROGRESS REPORT

TABLE 1.2-5

SUMMARY WATER ANALYSIS
STREAM GAGING STATION, USGS 09306242
CORRAL GULCH EAST OF TRACT C-a
YEAR 1976

	Jan. 29	Feb. 18	Mar. 11	Apr. 15	May 13	June 25	July 21				
1. Alkalinity (mg/l)	352	414	419	367	385		363				
2. Aluminum (ug/l)	10	10	20	--	--	100	--				
3. Ammonia (mg/l)	05	--	.05	.12	.13		.04				
4. Aromatics, Polycyclic											
5. Arsenic (ug/l)	4	4	6	--	--		--				
6. Barium (ug/l)			60			60					
7. Beryllium (ug/l)			<4			<7					
8. Bicarbonate (mg/l)	441	505	511	488	481		442				
9. Bismuth (ug/l)			<25			20					
10. Boron (ug/l)	140	120	100	150	130	90	120				
11. Cadmium (ug/l)			1								
12. Carbonate (mg/l)	0	0	0	0	0		0				
13. Carbon Dioxide (mg/l)											
14. Chloride (mg/l)	10	9.4	12	11	12		11				
15. Chromium (ug/l)			<20			<15					
16. Cobalt (ug/l)			<20			<15					
17. COD			12								
18. Coliform, Total & Fecal			2								
19. Color (PCU)	3	4	4	0	0		12				
20. Conductivity, Specific	1220	1300	1250	1300	1222		1320				
21. Copper (ug/l)			3								
22. Cyanide (mg/l)			.00								
23. Discharge (CFS)											
24. Discharge, Instantaneous	.42	.55	.35	.53	--		.75				
25. Dissolved Oxygen (mg/l)	7.7	10.9	10.0	7.0	10.1		6.9				
26. Fluoride (mg/l)	.4	.4	.4	.4	.4		.4				
27. Gallium (ug/l)			<7			<7					
28. Germanium (ug/l)			<20			<20					
29. Hardness (Ca, Mg) (mg/l)	470	460	520	510	420		430				
30. Hardness, Non-Carbonate (mg/l)	110	42	98	140	92		69				
31. Iron (ug/l)	10	10	<20	--	--	60	--				
32. Kjeldahl Nitrogen (mg/l)	.40	.22	.11	--	.35		.92				
33. Lead (ug/l)			<20			<15					
34. Lithium (ug/l)			20			20					
35. Magnesium (mg/l)	63	60	70	69	65		55				
36. Manganese (ug/l)			40			<20					
37. Mercury (ug/l)			.0								
38. Molybdenum (ug/l)			50			50					
39. Nickel (ug/l)			<20			<15					
40. Nitrate (mg/l)											
41. Nitrite (mg/l)											
42. Nitrite Plus Nitrate (mg/l)	.34	.37	.33	.32	<.32		.18				
43. Nitrogen, Ammonia	.04	--	.04	.09	.10		.03				
44. Odor (Severity)											
45. Oil & Grease (mg/l)			0								
46. Ortho-Phosphate (mg/l)											
47. Ortho-Phosphorus (mg/l)	.01	.05	.01	.01	.21		.00				
48. Pesticides											
49. pH	7.8	8.2	7.7	7.5	8.2		7.8				
50. Phosphorus, Total (mg/l)	.00	.03	.04	--	.16		.04				
51. Potassium (mg/l)	1.5	1.4	1.7	2.4	1.5		1.7				
52. Selenium (ug/l)			<2								
53. Silica (mg/l)	20	20	21	22	21		21				
54. Silver (ug/l)			<2			<2					
55. Sodium (mg/l)	110	100	120	120	110		98				
56. Sodium Adsorption Ratio	2.2	2.0	2.3	2.3	2.2		2.1				
57. Sodium (%)	34	32	34	34	33		33				
58. Solids, Dissolved (mg/l)	821	787	872	837	816		748				
59. Solids, Dissolved T/D	.93	1.17	.82	1.20	--		1.51				
60. Solids, Dissolved T/Ac-Ft	1.12	1.07	1.19	1.14	1.11		1.02				
61. Solids, Suspended											
62. Strontium (ug/l)	2200	1800	1700	--	--	1600	--				
63. Sulfate (mg/l)	310	260	300	300	280		260				
64. Sulfide (mg/l)			.0								
65. Temperature (°C)	3.5	.0	9.0	12	13		22				
66. Tin (ug/l)			<20			<15					
67. Titanium (ug/l)			<10			<10					
68. Turbidity (JTU)											
69. Vanadium (ug/l)			<10			<15					
70. Zinc (ug/l)			10			20					
71. Zirconium (ug/l)			<30			<30					
72. Calcium (mg/l)	85	83	91	90	87		82				
73. Streptococci	--	--	2	--	--		--				
74. Radioactivity											
Gross Alpha (pci)			<9.1			<12.4					
Radium 226*											
Gross Beta			3.7			2.5					
Thorium 230**											
Uranium**											
75. Total Organic Carbon (mg/l)	14.3	7.0	4.5								
If TOC >10 mg/liter, then											
Nitrogen (Base Extraction)	.36	--	.07	--	.35		.89				
Organic Carbon, Dissolved	14	6.7	4.2	--	--		12				
Organic Carbon, Suspended	.3	.3	.3	--	--		11				
Phenols											
Sulfur (Acid Extraction)											
76. Total Ortho-Phosphorous (mg/l)	.01	.05	.01								
77. Phosphate	.00	.09	.12	--	.49		.12				
78. Phosphorus, Dissolved											

TABLE 1.2-6

SUMMARY WATER ANALYSIS
STREAM GAGING STATION, USGS 09306241
"RINKY DINK" GULCH NEAR EAST LINE TRACT C-a
YEAR 1976

	Feb. 13	Mar. 18									
1. Alkalinity (mg/l)	73	72									
2. Aluminum (ug/l)	250	--									
3. Ammonia (mg/l)	.12	.06									
4. Aromatics, Polycyclic											
5. Arsenic (ug/l)	3	--									
6. Barium (ug/l)	0										
7. Beryllium (ug/l)											
8. Bicarbonate (mg/l)	89	88									
9. Bismuth (ug/l)											
10. Boron (ug/l)	100	50									
11. Cadmium (ug/l)	1										
12. Carbonate (mg/l)	0	0									
13. Carbon Dioxide (mg/l)											
14. Chloride (mg/l)	1.8	1.7									
15. Chromium (ug/l)	0										
16. Cobalt (ug/l)											
17. COD	240										
18. Coliform, Total & Fecal											
19. Color (PCU)		130									
20. Conductivity, Specific	160	190									
21. Copper (ug/l)	13										
22. Cyanide (mg/l)	.00										
23. Discharge (CFS)											
24. Discharge, Instantaneous	.43	.05									
25. Dissolved Oxygen (mg/l)											
26. Fluoride (mg/l)	.3	.2									
27. Gallium (ug/l)											
28. Germanium (ug/l)											
29. Hardness (Ca, Mg) (mg/l)	37	55									
30. Hardness, Non-Carbonate (mg/l)	0	0									
31. Iron (ug/l)	280	--									
32. Kjeldahl Nitrogen (mg/l)	1.1	.39									
33. Lead (ug/l)	10										
34. Lithium (ug/l)	10										
35. Magnesium (mg/l)	2.2	3.0									
36. Manganese (ug/l)											
37. Mercury (ug/l)	.1										
38. Molybdenum (ug/l)											
39. Nickel (ug/l)											
40. Nitrate (mg/l)											
41. Nitrite (mg/l)											
42. Nitrite Plus Nitrate (mg/l)	.72	.61									
43. Nitrogen, Ammonia	.09	.05									
44. Odor (Severity)											
45. Oil & Grease (mg/l)											
46. Ortho-Phosphate (mg/l)											
47. Ortho-Phosphorus (mg/l)	.08	.03									
48. Pesticides											
49. pH	8.5	8.4									
50. Phosphorus, Total (mg/l)	.70	2.5									
51. Potassium (mg/l)	2.3	2.9									
52. Selenium (ug/l)	0										
53. Silica (mg/l)	5.0	5.8									
54. Silver (ug/l)											
55. Sodium (mg/l)	24	16									
56. Sodium Adsorption Ratio	1.7	.9									
57. Sodium (%)	57	37									
58. Solids, Dissolved (mg/l)	102	98									
59. Solids, Dissolved T/D	.12	.01									
60. Solids, Dissolved T/Ac-Ft	.14	.13									
61. Solids, Suspended											
62. Strontium (ug/l)	100	--									
63. Sulfate (mg/l)	6.8	5.3									
64. Sulfide (mg/l)											
65. Temperature (°C)	1.0	8.0									
66. Tin (ug/l)											
67. Titanium (ug/l)											
68. Turbidity (JTU)											
69. Vanadium (ug/l)											
70. Zinc (ug/l)	90										
71. Zirconium (ug/l)											
72. Calcium (mg/l)	11	17									
73. Complete Element Span											
74. Radioactivity											
Gross Alpha (pci)											
Radium 226*											
Gross Beta											
Thorium 230**											
Uranium**											
75. Total Organic Carbon (mg/l)	70.9										
If TOC >10 mg/liter, then											
Nitrogen (Base Extraction)	1.0	.34									
Organic Carbon, Dissolved	67	34									
Organic Carbon, Suspended	3.9	>10									
Phenols											
Sulfur Acid Extraction											
76. Total Ortho-Phosphorous (mg/l)	.06										
77. Phosphate	2.1	7.7									
78. Phosphorus, Dissolved											

RBOSP PROGRESS REPORT

TABLE 1.2-7

SUMMARY WATER ANALYSIS
STREAM GAGING STATION, USGS 09306230
STAKE SPRINGS DRAW NEAR CONFLUENCE WITH CORRAL GULCH
YEAR 1976

		Feb. 13										
1.	Alkalinity (mg/l)	114										
2.	Aluminum (ug/l)	100										
3.	Ammonia (mg/l)	.14										
4.	Aromatics, Polycyclic											
5.	Arsenic (ug/l)	2										
6.	Barium (ug/l)											
7.	Beryllium (ug/l)											
8.	Bicarbonate (mg/l)	139										
9.	Bismuth (ug/l)											
10.	Boron (ug/l)	160										
11.	Cadmium (ug/l)											
12.	Carbonate (mg/l)	0										
13.	Carbon Dioxide (mg/l)											
14.	Chloride (mg/l)	4.2										
15.	Chromium (ug/l)											
16.	Cobalt (ug/l)											
17.	COD											
18.	Coliform, Total & Fecal											
19.	Color (PCU)	100										
20.	Conductivity, Specific	280										
21.	Copper (ug/l)											
22.	Cyanide (mg/l)											
23.	Discharge (CFS)											
24.	Discharge, Instantaneous	.02										
25.	Dissolved Oxygen (mg/l)											
26.	Fluoride (mg/l)	.1										
27.	Gallium (ug/l)											
28.	Germanium (ug/l)	94										
29.	Hardness (Ca, Mg) (mg/l)	0										
30.	Hardness, Non-Carbonate (mg/l)											
31.	Iron (ug/l)	180										
32.	Kjeldahl Nitrogen (mg/l)	2.4										
33.	Lead (ug/l)											
34.	Lithium (ug/l)											
35.	Magnesium (mg/l)	5.9										
36.	Manganese (ug/l)											
37.	Mercury (ug/l)											
38.	Molybdenum (ug/l)											
39.	Nickel (ug/l)											
40.	Nitrate (mg/l)											
41.	Nitrite (mg/l)											
42.	Nitrite Plus Nitrate (mg/l)	.42										
43.	Nitrogen, Ammonia	.11										
44.	Odor (Severity)											
45.	Oil & Grease (mg/l)											
46.	Ortho-Phosphate (mg/l)											
47.	Ortho-Phosphorus (mg/l)	.16										
48.	Pesticides	0										
49.	pH	8.4										
50.	Phosphorus, Total (mg/l)	.34										
51.	Potassium (mg/l)	5.4										
52.	Selenium (ug/l)											
53.	Silica (mg/l)	5.3										
54.	Silver (ug/l)											
55.	Sodium (mg/l)	17										
56.	Sodium Adsorption Ratio	.8										
57.	Sodium (%)	27										
58.	Solids, Dissolved (mg/l)	154										
59.	Solids, Dissolved T/D	.01										
60.	Solids, Dissolved T/Ac-Ft	.21										
61.	Solids, Suspended											
62.	Strontium (ug/l)	390										
63.	Sulfate (mg/l)	17										
64.	Sulfide (mg/l)											
65.	Temperature (°C)	3.0										
66.	Tin (ug/l)											
67.	Titanium (ug/l)											
68.	Turbidity (JTU)											
69.	Vanadium (ug/l)											
70.	Zinc (ug/l)											
71.	Zirconium (ug/l)											
72.	Calcium (mg/l)	26										
73.	Complete Element Scan											
74.	Radioactivity											
	Gross Alpha (pci)											
	Radium 226*											
	Gross Beta											
	Thorium 230**											
	Uranium**											
75.	Total Organic Carbon (mg/l)	68.4										
	[illegible] (10 mg/liter, Scan											
	Nitrogen (Base Extraction)	2.3										
	Organic Carbon, Dissolved	67										
	Organic Carbon, Suspended	1.4										
	Phenols											
	Sulfur (Acid Extraction)											
76.	Total Ortho-Phosphorous (mg/l)	.16										
77.	Phosphate	1.0										
78.	Phosphorus, Dissolved											

TABLE 1.2-8

SUMMARY WATER ANALYSIS
STREAM GAGING STATION, USGS 09306244
CORRAL GULCH SOUTH OF 84 MESA
YEAR 1976

	Jan. 29	Feb. 18	Mar. 11	May 13	June 26						
1. Alkalinity (mg/l)	523	505	489	469							
2. Aluminum (ug/l)	10	10	<20	--	40						
3. Ammonia (mg/l)	.06	.19	.10	.05							
4. Aromatics, Polycyclic											
5. Arsenic (ug/l)	2	2	4	--							
6. Barium (ug/l)			200		100						
7. Beryllium (ug/l)			<5		<10						
8. Bicarbonate (mg/l)	638	616	595	572							
9. Bismuth (ug/l)			<35		<40						
10. Boron (ug/l)	180	160	150	40	140						
11. Cadmium (ug/l)			1								
12. Carbonate (mg/l)	0	0	0	0							
13. Carbon Dioxide (mg/l)											
14. Chloride (mg/l)	18	19	16	17							
15. Chromium (ug/l)			<25		<30						
16. Cobalt (ug/l)			<25		<30						
17. COD			25								
18. Coliform, Total & Fecal			94								
19. Color (PCU)	4	15	15	5							
20. Conductivity, Specific	1750	1900	1700	1820							
21. Copper (ug/l)			2								
22. Cyanide (mg/l)			.00								
23. Discharge (CFS)											
24. Discharge, Instantaneous	.01	.10	.07	--							
25. Dissolved Oxygen (mg/l)	5.1	11.7	13.4	9.2							
26. Fluoride (mg/l)	.3	.4	.3	.3							
27. Gallium (ug/l)			<10	--	<10						
28. Germanium (ug/l)			<30		<40						
29. Hardness (Ca, Mg) (mg/l)	730	690	680	650							
30. Hardness, Non-Carbonate (mg/l)	210	180	190	190							
31. Iron (ug/l)	20	30	<30	--	<30						
32. Kjeldahl Nitrogen (mg/l)	.76	1.0	.96	.46							
33. Lead (ug/l)			<35								
34. Lithium (ug/l)			10		20						
35. Magnesium (mg/l)	110	100	97	100							
36. Manganese (ug/l)			60		220						
37. Mercury (ug/l)			.0								
38. Molybdenum (ug/l)			60		60						
39. Nickel (ug/l)			<25		<30						
40. Nitrate (mg/l)											
41. Nitrite (mg/l)											
42. Nitrite Plus Nitrate (mg/l)	.71	.85	.68	<.04							
43. Nitrogen, Ammonia	.05	.15	.03	.04							
44. Odor (Severity)											
45. Oil & Grease (mg/l)			0								
46. Ortho-Phosphate (mg/l)											
47. Ortho-Phosphorus (mg/l)	.02	.01	.03	.00							
48. Pesticides			0								
49. pH	7.8	8.2	8.3	8.2							
50. Phosphorus, Total (mg/l)	.00	.05	.06	.85							
51. Potassium (mg/l)	2.6	2.7	3.0	2.6							
52. Selenium (ug/l)			2								
53. Silica (mg/l)	17	18	20	17							
54. Silver (ug/l)			<3		<4						
55. Sodium (mg/l)	190	170	170	190							
56. Sodium Adsorption Ratio	3.1	2.8	2.9	3.2							
57. Sodium (%)	36	35	35	38							
58. Solids, Dissolved (mg/l)	1390	1240	1210	1230							
59. Solids, Dissolved T/D	.04	.33	.23	--							
60. Solids, Dissolved T/Ac-Ft	1.88	1.69	1.65	1.67							
61. Solids, Suspended											
62. Strontium (ug/l)	2800	2700	2300	--	2500						
63. Sulfate (mg/l)	610	510	490	520							
64. Sulfide (mg/l)			.2								
65. Temperature (°C)	6.0	8.0	9.0	21.0							
66. Tin (ug/l)			<20		<30						
67. Titanium (ug/l)			<20		<20						
68. Turbidity (JTU)											
69. Vanadium (ug/l)			<15		<30						
70. Zinc (ug/l)			10		20						
71. Zirconium (ug/l)			10		<50						
72. Calcium (mg/l)	110	110	110	100							
73. Complete Element Span											
74. Radioactivity											
Gross Alpha (pci)	<7.8		<12.4		10.6						
Radium 226*			.02		--						
Gross Beta	4.5		22.6		15.2						
Thorium 230**											
Uranium**											
75. Total Organic Carbon (mg/l)	11.4	13.7	13.3								
If TOC >10 mg/liter, then											
Nitrogen (Base Extraction)											
Organic Carbon, Dissolved	11	13	13	7.4							
Organic Carbon, Suspended	.4	.7	.3	--							
Phenols											
Sulfur (Acid Extraction)											
75. Total Ortho-Phosphorous (mg/l)											
77. Phosphate	.00	.15	.18	2.5							
78. Phosphorus, Dissolved											

RBOSP PROGRESS REPORT

TABLE 1.2-9
SUMMARY WATER ANALYSIS
STREAM GAGING STATION, USGS 09306255
YELLOW CREEK NEAR WHITE RIVER
YEAR 1976

	Jan. 28	Feb. 26	March 30	Apr. 9	May 25	June 23					
1. Alkalinity (mg/l)	1670	1280	1530	1520	1870						
2. Aluminum (ug/l)	20	50	110	--	--	100					
3. Ammonia (mg/l)	.35	.30	0.18	0	.04						
4. Aromatics, Polycyclic											
5. Arsenic (ug/l)	4	6	--	--	--						
6. Barium (ug/l)			20			100					
7. Beryllium (ug/l)			<10			<20					
8. Bicarbonate (mg/l)	1460	595	1380	1580	1860						
9. Bismuth (ug/l)			<70			<70					
10. Boron (ug/l)	690	580	720	680	750	820					
11. Cadmium (ug/l)			1								
12. Carbonate (mg/l)	283	478	240	136	207						
13. Carbon Dioxide (mg/l)											
14. Chloride (mg/l)	150	130	140	140	140						
15. Chromium (ug/l)			0			<50					
16. Cobalt (ug/l)			<50			<50					
17. COD			15								
18. Coliform, Total & Fecal											
19. Color (PCU)	5	20	10	20	22						
20. Conductivity, Specific	3880	2300	1700	4000	3500						
21. Cooper (ug/l)			4								
22. Cyanide (mg/l)			0.00								
23. Discharge (CFS)											
24. Discharge, instantaneous	2.0	3.5									
25. Dissolved Oxygen (mg/l)	12.2	10.9	11.1	8.5	--						
26. Fluoride (mg/l)	2.5	2.0	2.4	2.6	2.6						
27. Gallium (ug/l)			<20			<20					
28. Germanium (ug/l)			<70			<70					
29. Hardness (Ca, Mg) (mg/l)	590	550	500	530	510						
30. Hardness, Non-Carbonate (mg/l)	0	0	0	0	0						
31. Iron (ug/l)	20	20	70	--	--	80					
32. Kjeldahl Nitrogen (mg/l)	1.0	.90	--	.47	.40						
33. Lead (ug/l)			<50			<50					
34. Lithium (ug/l)			150			200					
35. Magnesium (mg/l)	120	110	100	110	120						
36. Manganese (ug/l)			<30			<30					
37. Mercury (ug/l)			0								
38. Molybdenum (ug/l)			80			40					
39. Nickel (ug/l)			<50			<50					
40. Nitrate (mg/l)											
41. Nitrite (mg/l)											
42. Nitrite Plus Nitrate (mg/l)	1.5	1.2	1.0	.51	.21						
43. Nitrogen, Ammonia	.27	.23	14	.00	.03						
44. Odor (Severity)											
45. Oil & Grease (mg/l)			0								
46. Ortho-Phosphate (mg/l)											
47. Ortho-Phosphorus (mg/l)											
48. Pesticides											
49. pH	8.7	8.7	8.7	8.6	8.8						
50. Phosphorus, Total (mg/l)	.16	.46	.32	.24	.27						
51. Potassium (mg/l)	4.2	4.1	7.0	5.0	4.4						
52. Selenium (ug/l)			1								
53. Silica (mg/l)	13	14	12	11	9.6						
54. Silver (ug/l)			<5		<5						
55. Sodium (mg/l)	850	640	830	800	850						
56. Sodium Adsorption Ratio	15	12	16	15	16						
57. Sodium (%)	76	72	78	76	78						
58. Solids, Dissolved (mg/l)	2760	2240	2630	2550	2880						
59. Solids, Dissolved T/D	15.2	21.4	--	15.3	--						
60. Solids, Dissolved T/Ac-Ft	3.75	3.05	3.56	3.60	3.97						
61. Solids, Suspended											
62. Strontium (ug/l)	3100	3200	2700	--	--	3500					
63. Sulfate (mg/l)	570	520	570	630	620						
64. Sulfide (mg/l)			0.6								
65. Temperature (°C)	0	1.0	1.0	16.0	27.0						
66. Tin (ug/l)			<50			<50					
67. Titanium (ug/l)			<20			<30					
68. Turbidity (JTU)											
69. Vanadium (ug/l)			<40			<50					
70. Zinc (ug/l)			0			0					
71. Zirconium (ug/l)			<100			<100					
72. Calcium (mg/l)	35	39	34	32	7.4						
73. Complete Element Span											
74. Radioactivity											
Gross Alpha (ug/l)			<24			51.1					
Radium 226*											
Gross Beta			14			<7.4					
Thorium 230**											
Uranium**											
75. Total Organic Carbon (mg/l)	13.4										
If TOC >10 mg/liter, then											
Nitrogen (Base Extraction)											
Organic Carbon, Dissolved	6.9	11	12	--	4.3						
Organic Carbon, Suspended		2.4	1.1	1.0	--						
Phenols											
Sulfur (Acid Extraction)											
76. Total Ortho-Phosphorous (mg/l)	.09	.07	.08	.03	.0						
77. Phosphate	.49	1.4	.37	.24	.21						
78. Phosphorus, Dissolved											

TABLE 1.2-10

PRECIPITATION SUMMARY

1976

Recording Type Rain Gage Locations	APRIL			MAY			JUNE		
	Maximum	Total	Number of Days	Maximum	Total	Number of Days	Maximum	Total	Number of Days
Stake Springs Draw near confluence with Corral Gulch	0.30	0.93	11	0.32	0.86	8	0.73	1.79	7
Yellow Creek near White River	0.30	0.95	10	0.19	0.59	9	0.41	0.82	4
Cathedral Bluffs located in NW¼, NW¼, Sec. 14, T2S, R100W	0.57	1.82	8	0.28	0.94	8	0.65	1.74	5

APPROXIMATE MONTHLY TOTAL (IN.)

Storage Type Rain Gage Locations	APRIL	MAY	JUNE
Dry Fork near west line Tract C-a	1.21	1.08	2.01
Box Elder Gulch near west line Tract C-a	0.95	1.08	2.28
Corral Gulch near west line Tract C-a	0.65	0.77	1.79

RBOSP PROGRESS REPORT

TABLE 1.2-10

PRECIPITATION SUMMARY
(CONTINUED)
1976

Recording Type Rain Gage Locations	JULY Maximum	JULY Total	JULY Number of Days	AUGUST Maximum	AUGUST Total	AUGUST Number of Days
Stake Springs Draw near confluence with Corral Gulch	0.38	0.97	6	0.09	0.42	7
Yellow Creek near White River	0.50	1.08	7	0.24	0.66	6
Cathedral Bluffs located in NW¼, NW¼, Sec. 14, T2S, R100W	0.87	2.04	7	0.45	1.09	6

APPROXIMATE MONTHLY TOTAL (IN.)

Storage Type Rain Gage Locations	JULY	AUGUST
Dry Fork near west line Tract C-a	0.88	1.44
Box Elder Gulch near west line Tract C-a	0.73	1.35
Corral Gulch near west line Tract C-a	0.71	0.83

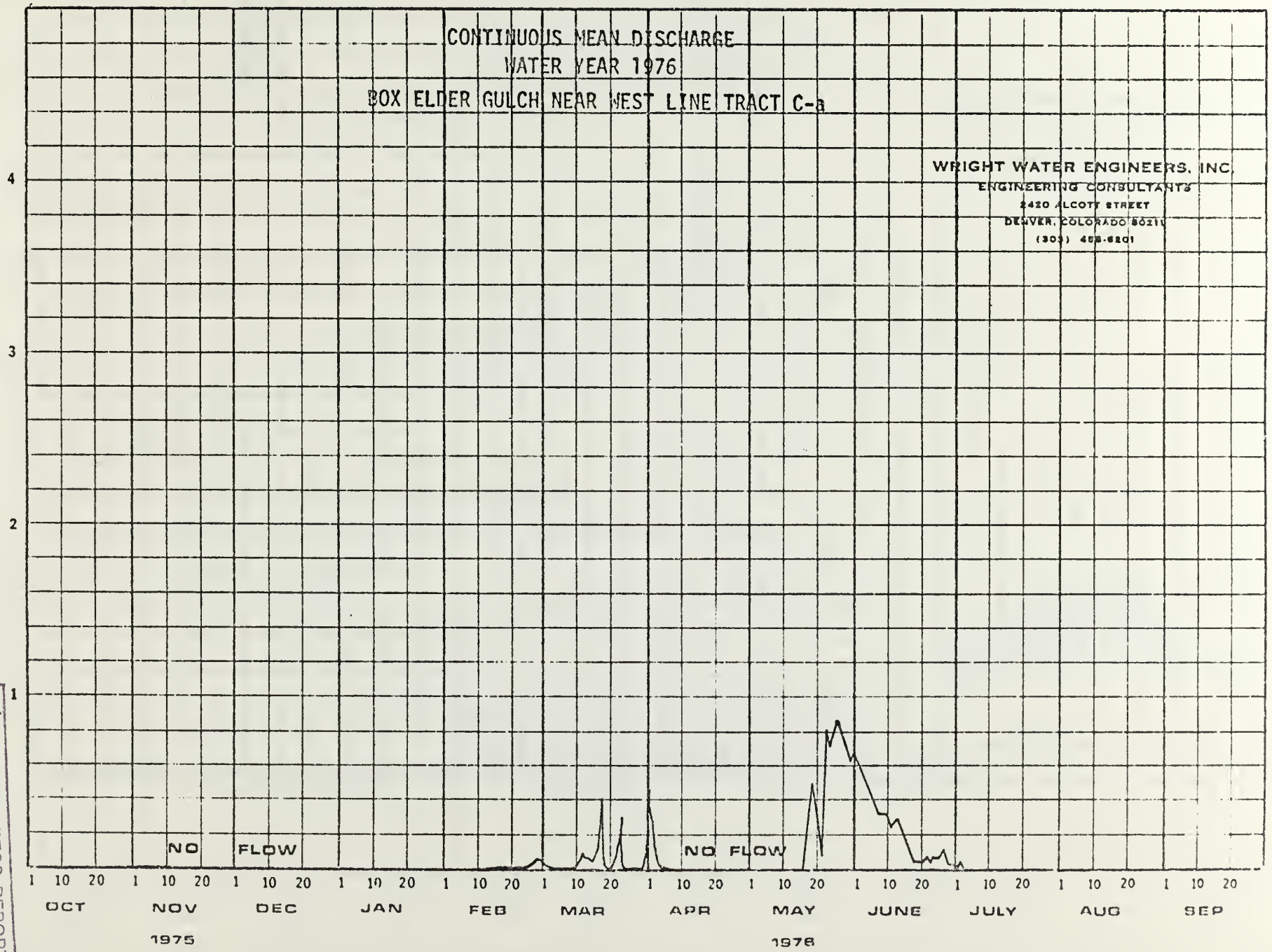


Figure 1.2-2

RBOSP PROGRESS REPORT

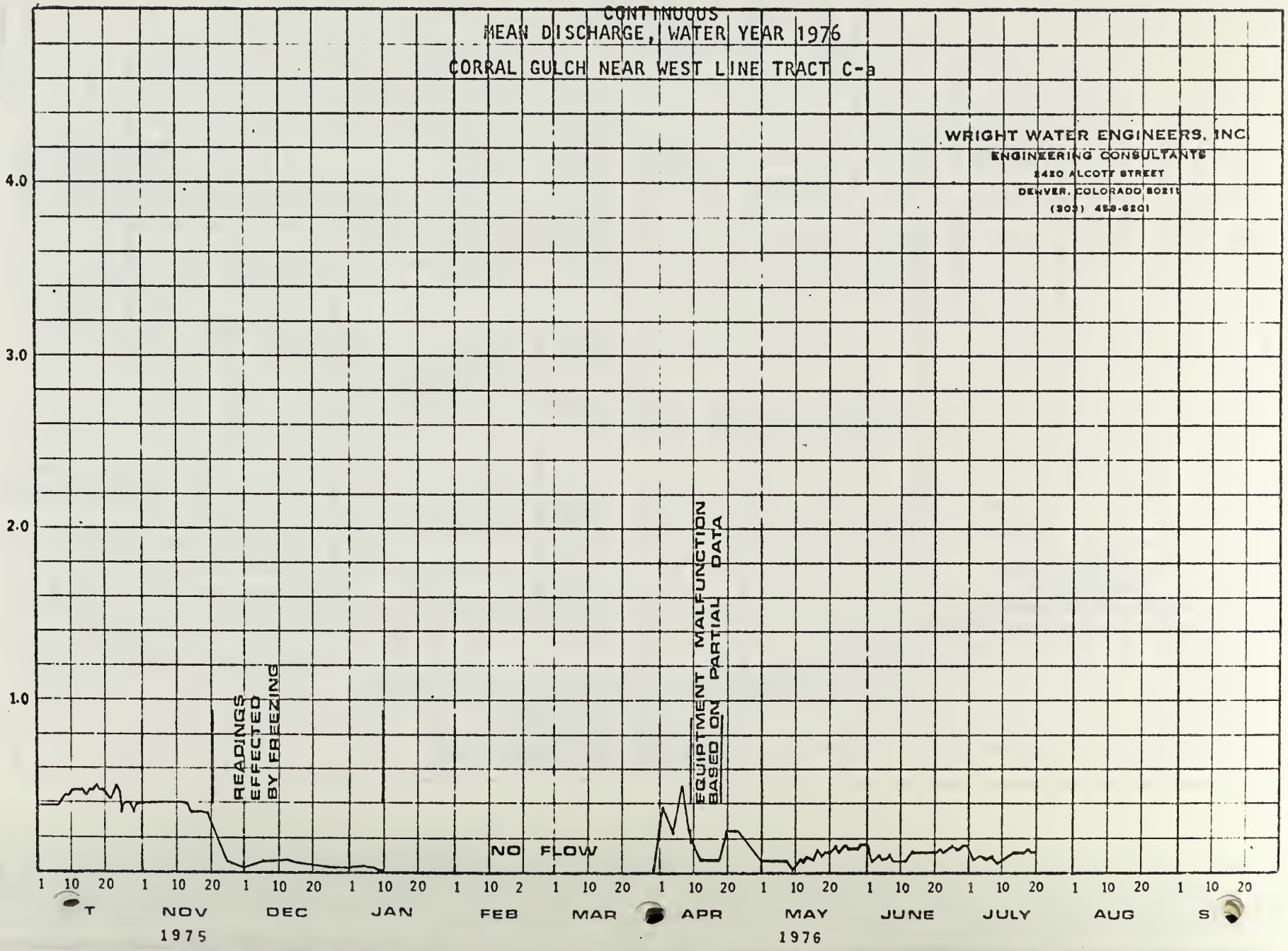

CONTINUOUS
MEAN DISCHARGE, WATER YEAR 1976
CORRAL GULCH NEAR WEST LINE TRACT C-a
WRIGHT WATER ENGINEERS, INC.
ENGINEERING CONSULTANTS
2420 ALCOTT STREET
DENVER, COLORADO 80211
(303) 458-6201
MEAN DISCHARGE CFS
4.0
3.0
2.0
1.0
READINGS EFFECTED BY FREEZING
EQUIPTMENT MALFUNCTION BASED ON PARTIAL DATA
NO FLOW
1 10 20 1 10 20 1 10 20 1 10 20 1 10 2 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20
T NOV DEC JAN FEB MAR APR MAY JUNE JULY AUG S
1975
1976

Figure 1.2-3

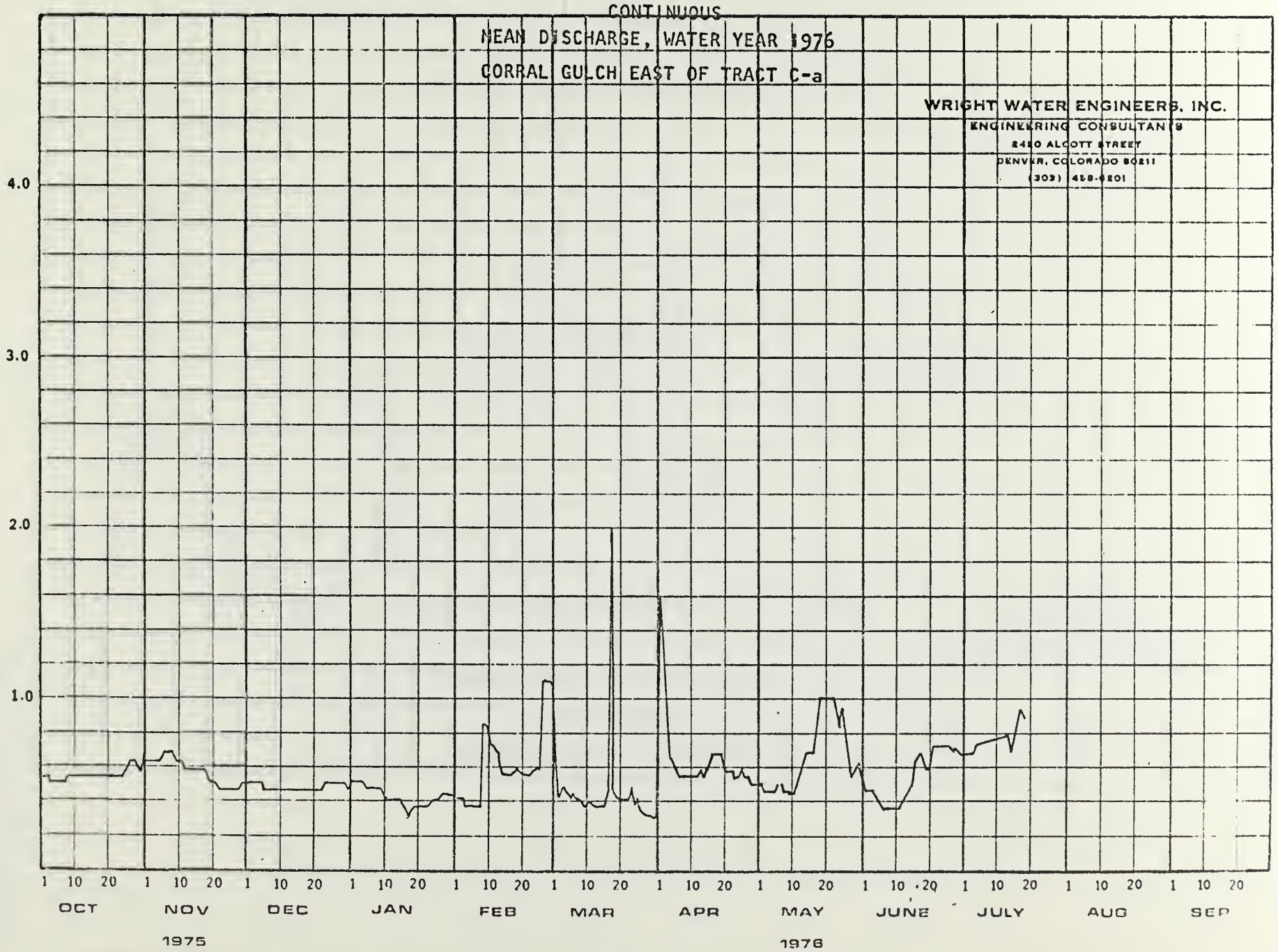


Figure 1.2-4

RBOSP PROGRESS REPORT

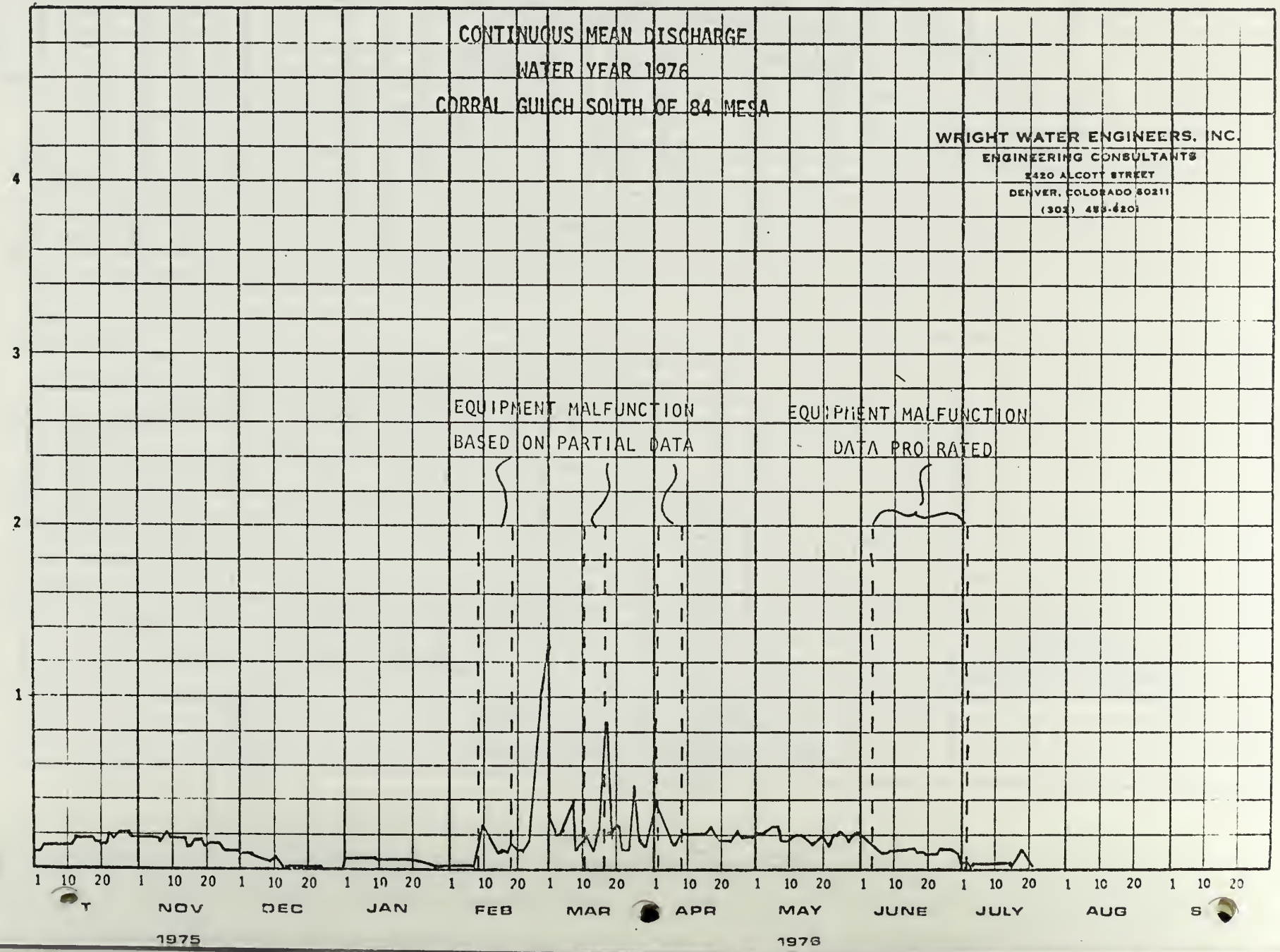

CONTINUOUS MEAN DISCHARGE
WATER YEAR 1976
CORRAL GULCH SOUTH OF 84 MESA
WRIGHT WATER ENGINEERS, INC.
ENGINEERING CONSULTANTS
2420 ALCOTT STREET
DENVER, COLORADO 80211
(303) 455-6201
EQUIPMENT MALFUNCTION
BASED ON PARTIAL DATA
EQUIPMENT MALFUNCTION
DATA PRO RATED
MEAN DISCHARGE CFS
4
3
2
1
1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20
T NOV DEC JAN FEB MAR APR MAY JUNE JULY AUG S
1975
1976

Figure 1.2-5

Figure 1.2-6

RBOSP PROGRESS REPORT

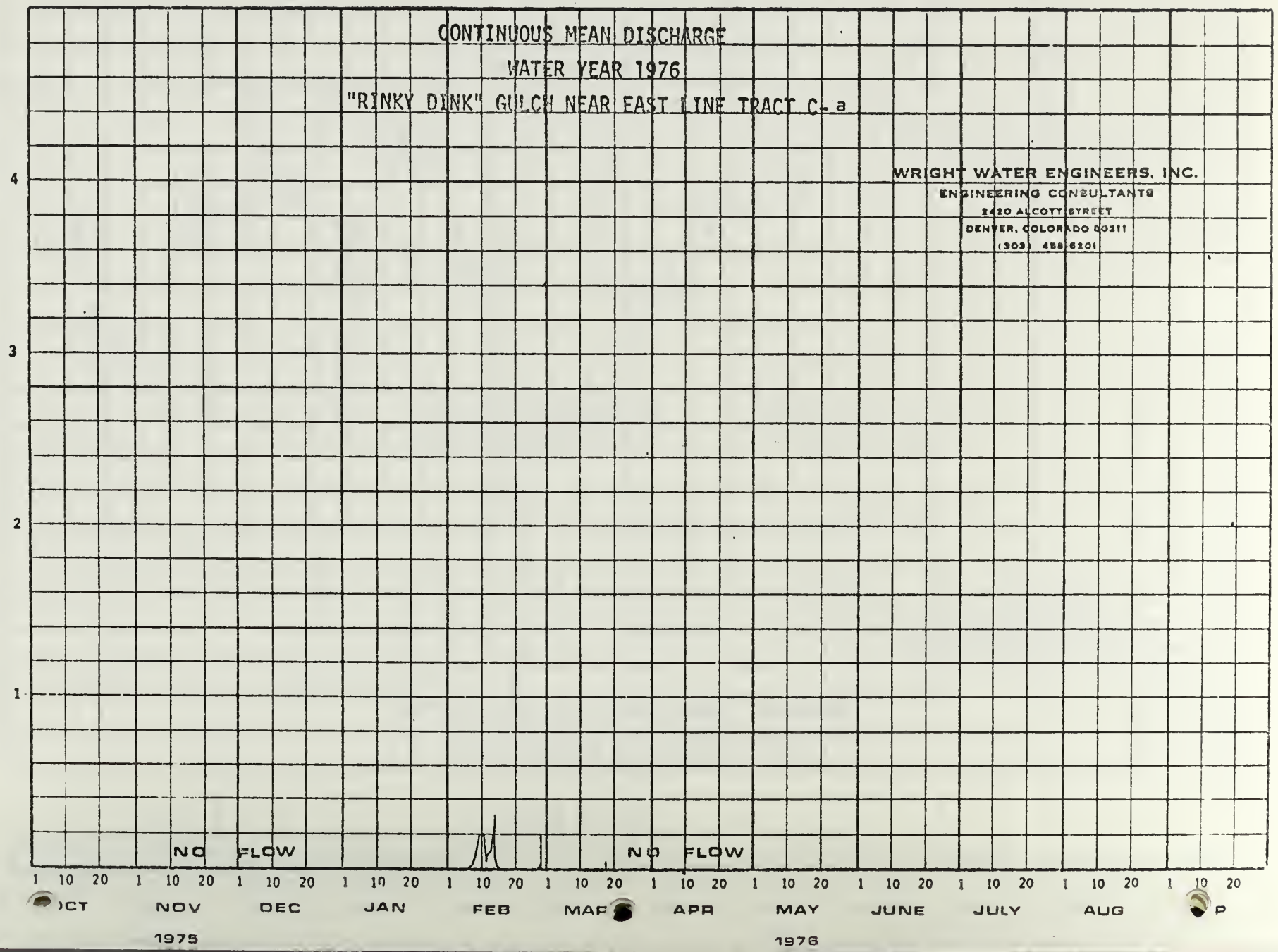
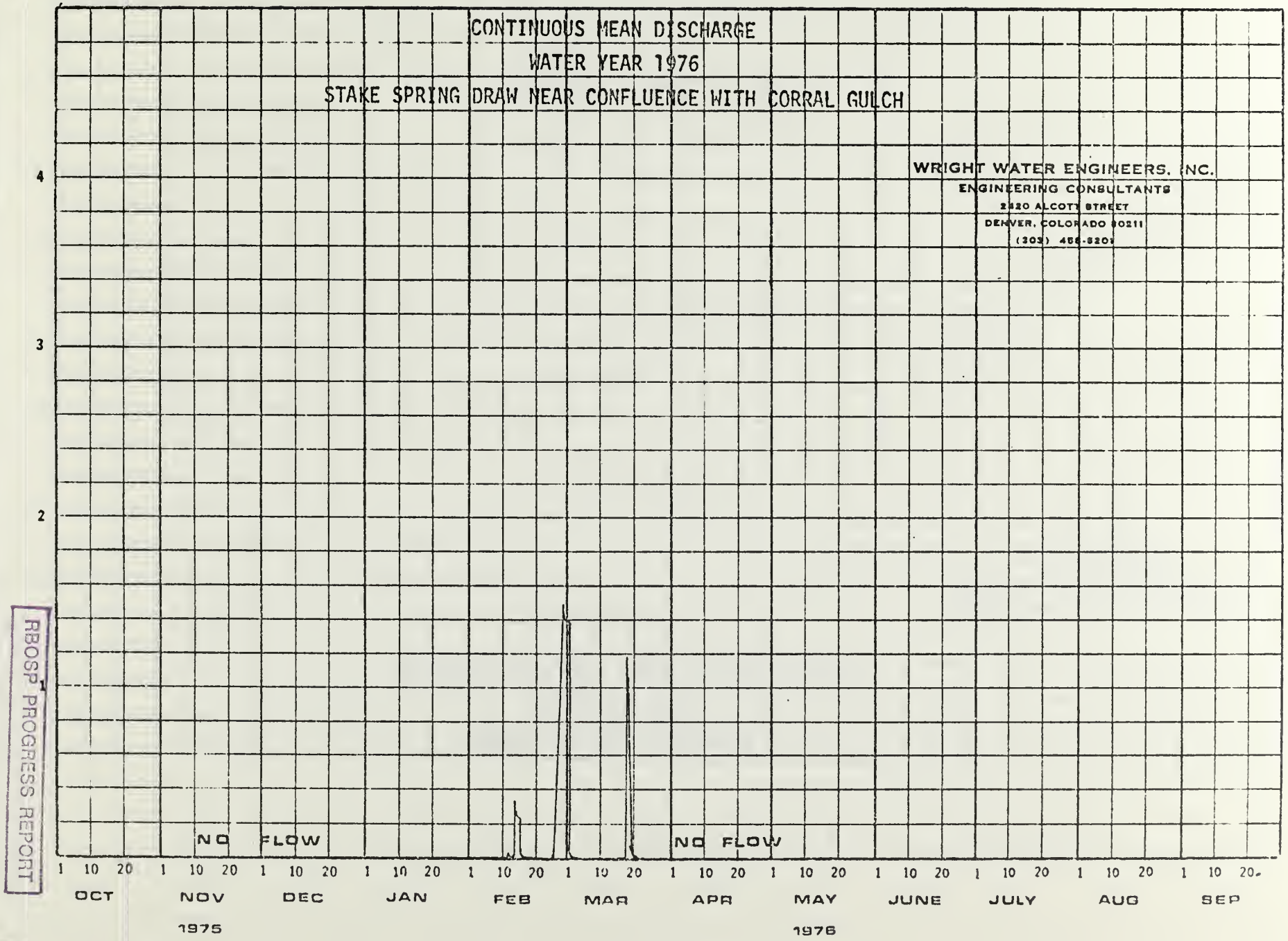

CONTINUOUS MEAN DISCHARGE
WATER YEAR 1976
"RINKY DINK" GULCH NEAR EAST LINE TRACT C-a
WRIGHT WATER ENGINEERS, INC.
ENGINEERING CONSULTANTS
2420 ALCOTT STREET
DENVER, COLORADO 80211
(303) 455-6201
MEAN DISCHARGE CFS
4
3
2
1
NO FLOW
NO FLOW
1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20
OCT NOV DEC JAN FEB MAR APR MAY JUNE JULY AUG SEP
1975
1976

Figure 1.2-7



RBOSP PROGRESS REPORT

Figure 1.2-8

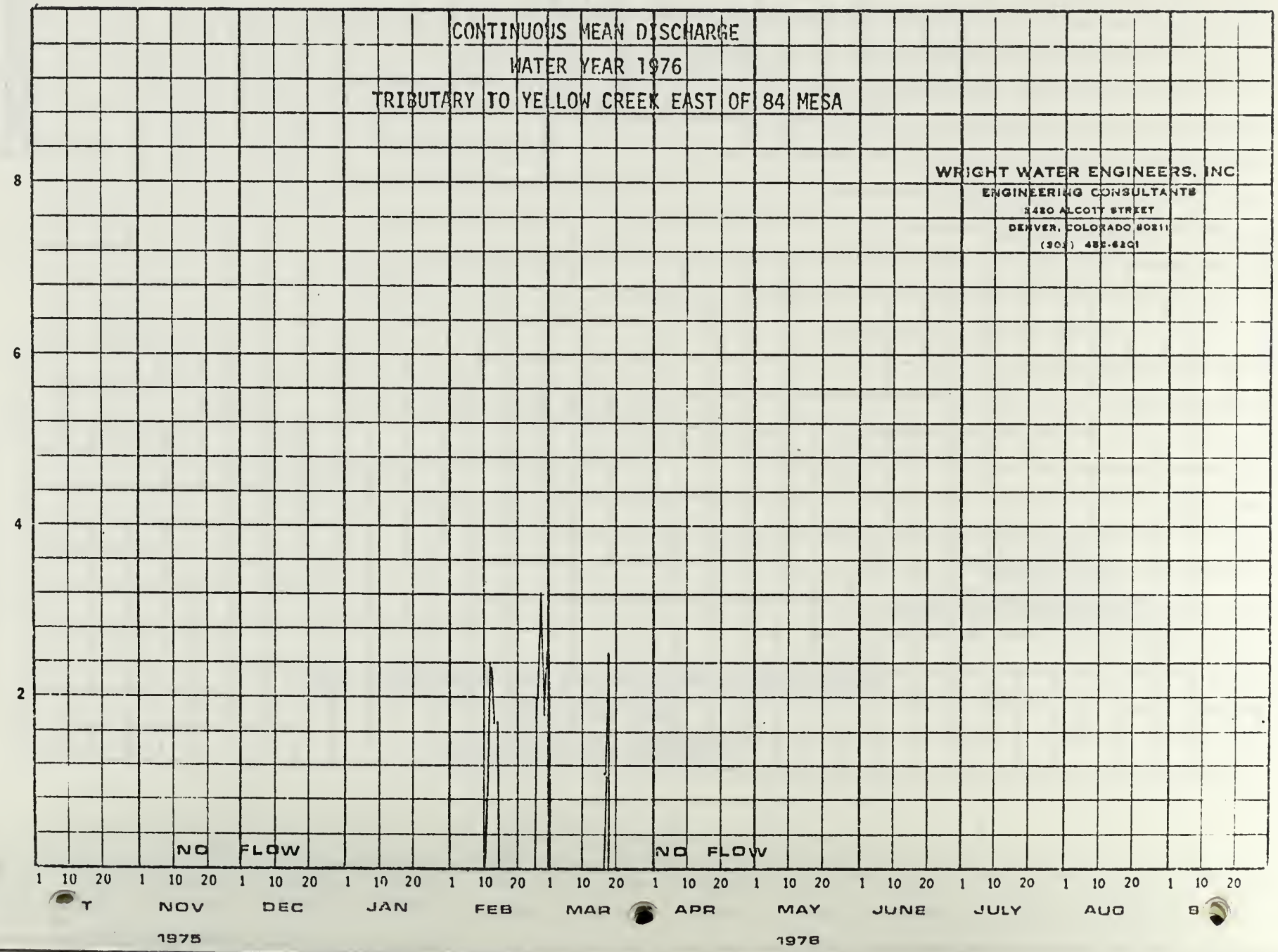

CONTINUOUS MEAN DISCHARGE
WATER YEAR 1976
TRIBUTARY TO YELLOW CREEK EAST OF 84 MESA
WRIGHT WATER ENGINEERS, INC.
ENGINEERING CONSULTANTS
2480 ALCOTT STREET
DENVER, COLORADO 80211
(303) 455-6201
MEAN DISCHARGE CFS
8
6
4
2
NO FLOW
NO FLOW
1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20
T NOV DEC JAN FEB MAR APR MAY JUNE JULY AUG S
1975
1976

Figure 1.2-9

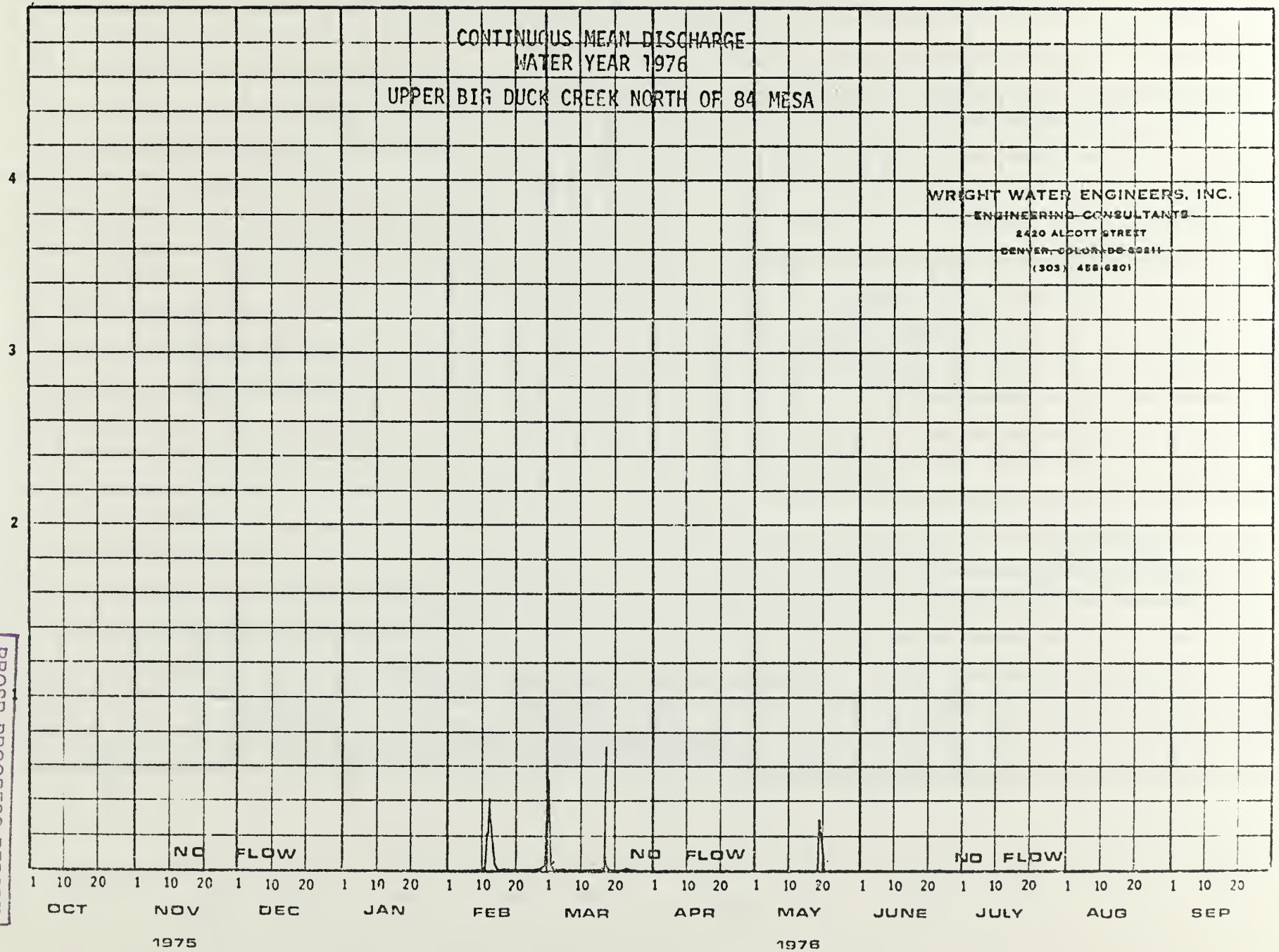


Figure 1.2-10

RBOSP PROGRESS REPORT

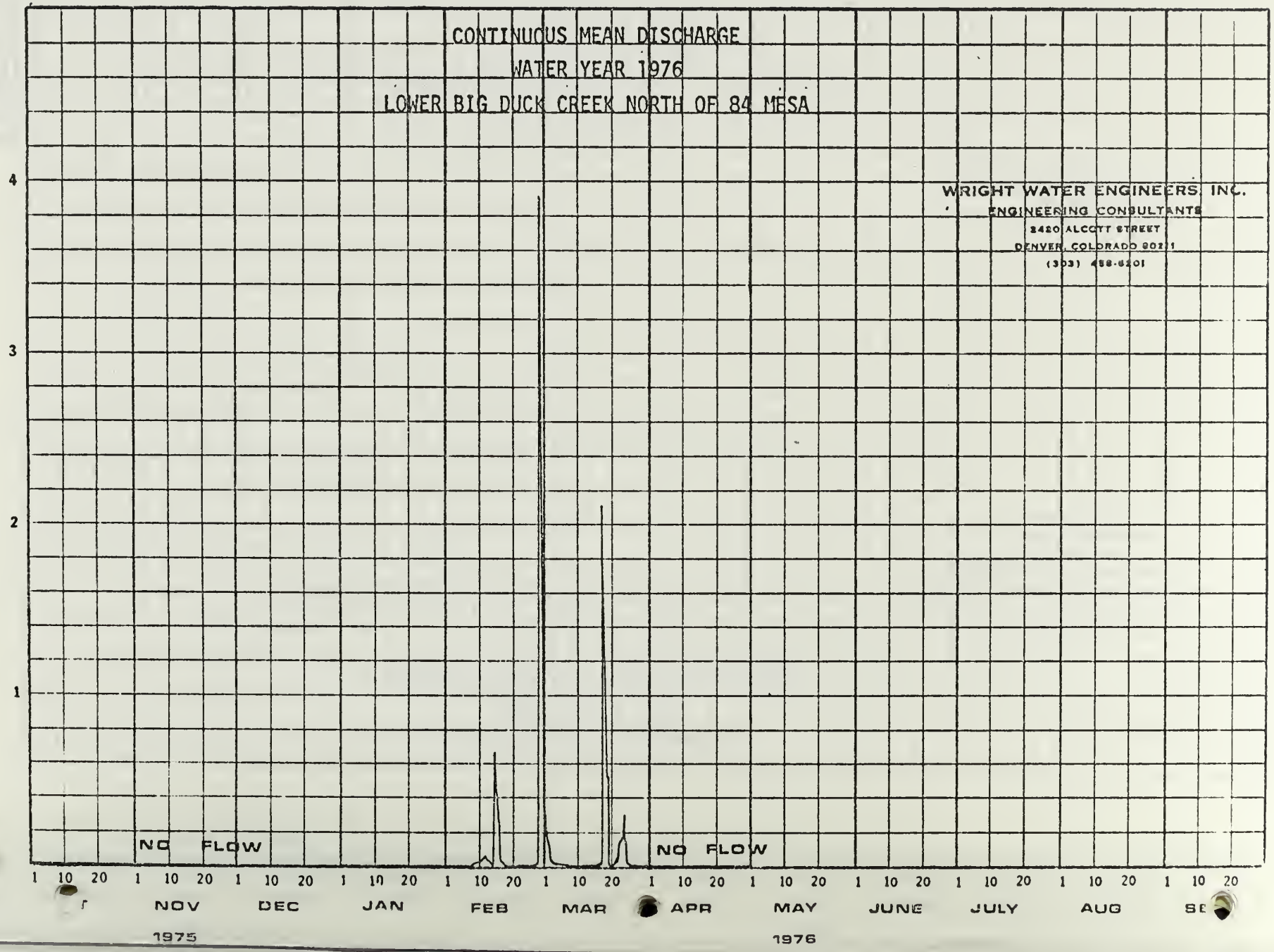
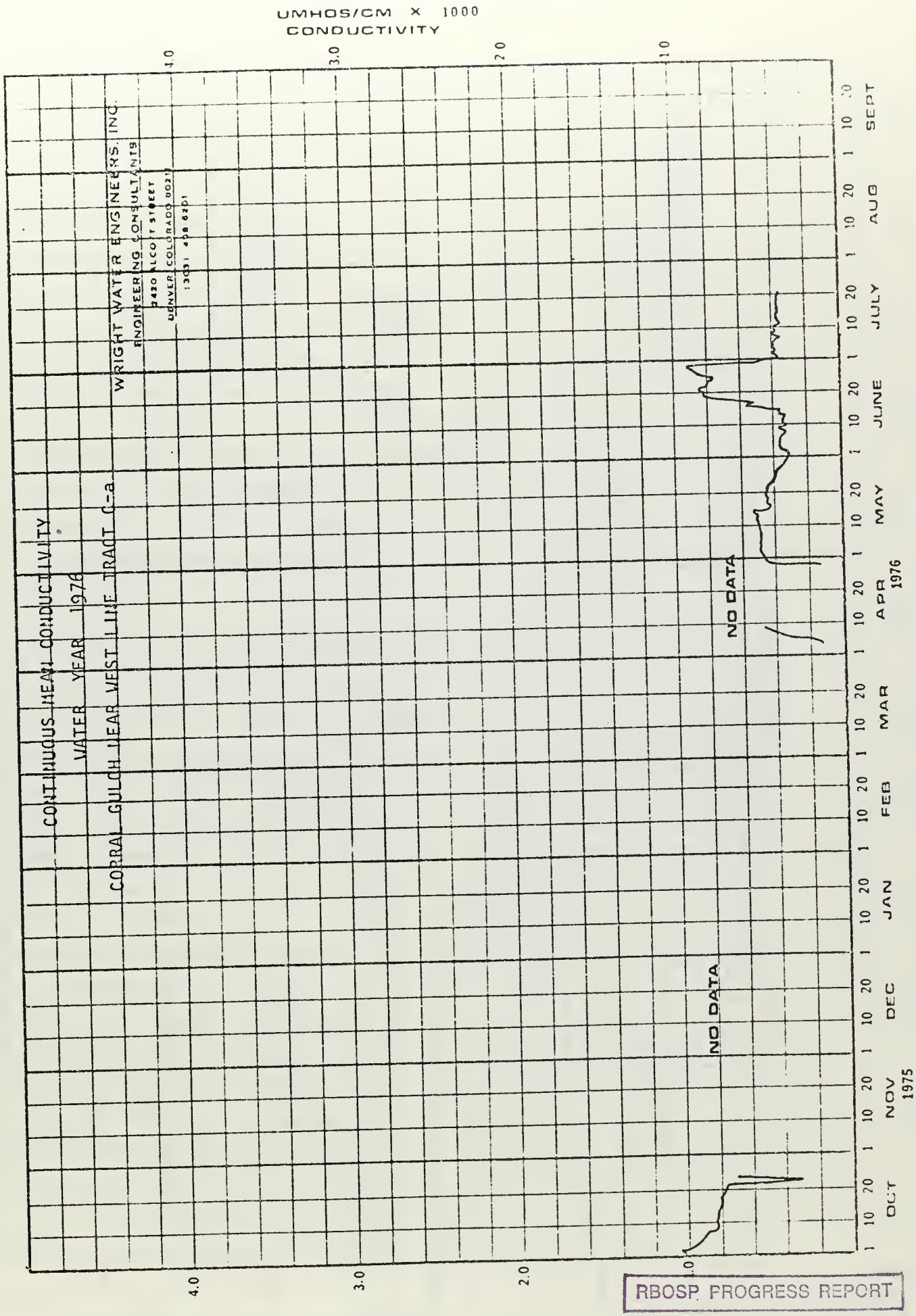

CONTINUOUS MEAN DISCHARGE
WATER YEAR 1976
LOWER BIG DUCK CREEK NORTH OF 84 MESA
WRIGHT WATER ENGINEERS, INC.
ENGINEERING CONSULTANTS
2420 ALCOTT STREET
DENVER, COLORADO 80211
(303) 458-6201
MEAN DISCHARGE CFS
4
3
2
1
NO FLOW
NO FLOW
1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20
NOV DEC JAN FEB MAR APR MAY JUNE JULY AUG
1975
1976

Figure 1,2-11



RBOSP PROGRESS REPORT

Figure 1.2-12

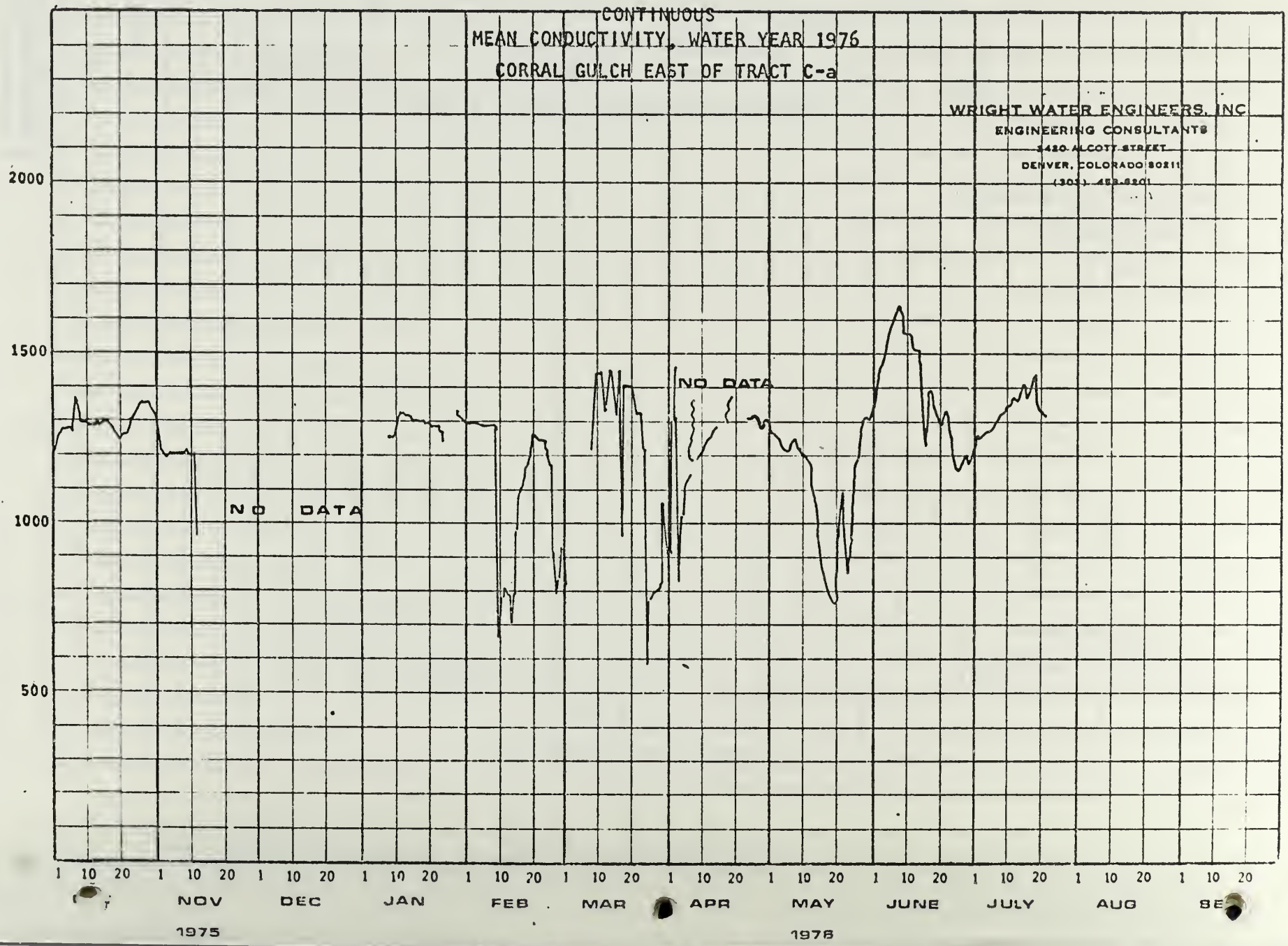

CONTINUOUS
MEAN CONDUCTIVITY, WATER YEAR 1976
CORRAL GULCH EAST OF TRACT C-a
WRIGHT WATER ENGINEERS, INC
ENGINEERING CONSULTANTS
3420 ALCOTT STREET
DENVER, COLORADO 80211
(303) 458-6201
CONDUCTIVITY µMHOS/CM
2000
1500
1000
500
NO DATA
NO DATA
1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUNE
JULY
AUG
1975
1976

Figure 1.2-13

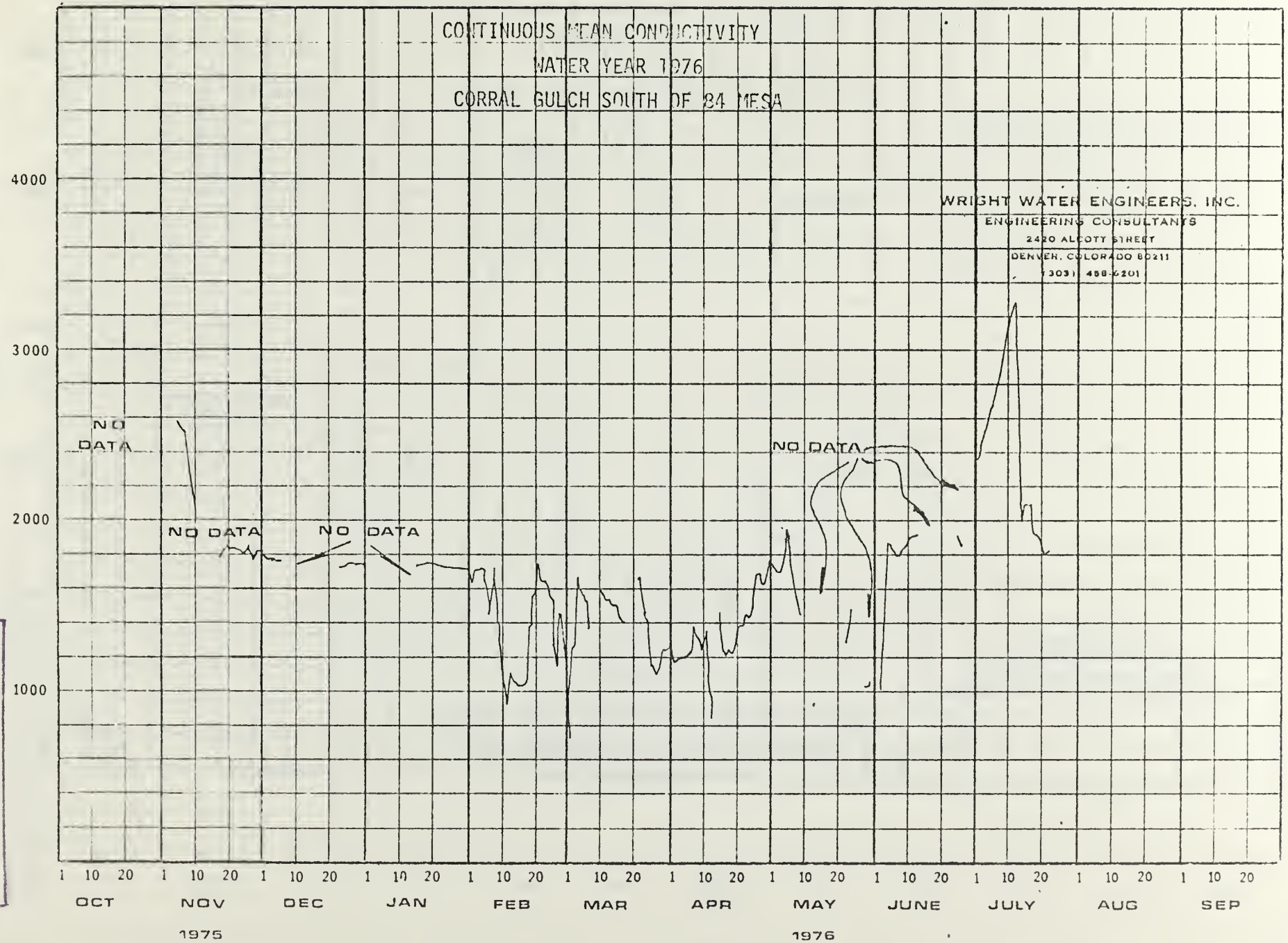


Figure 1.2-14

RBOSP PROGRESS REPORT
NAEN

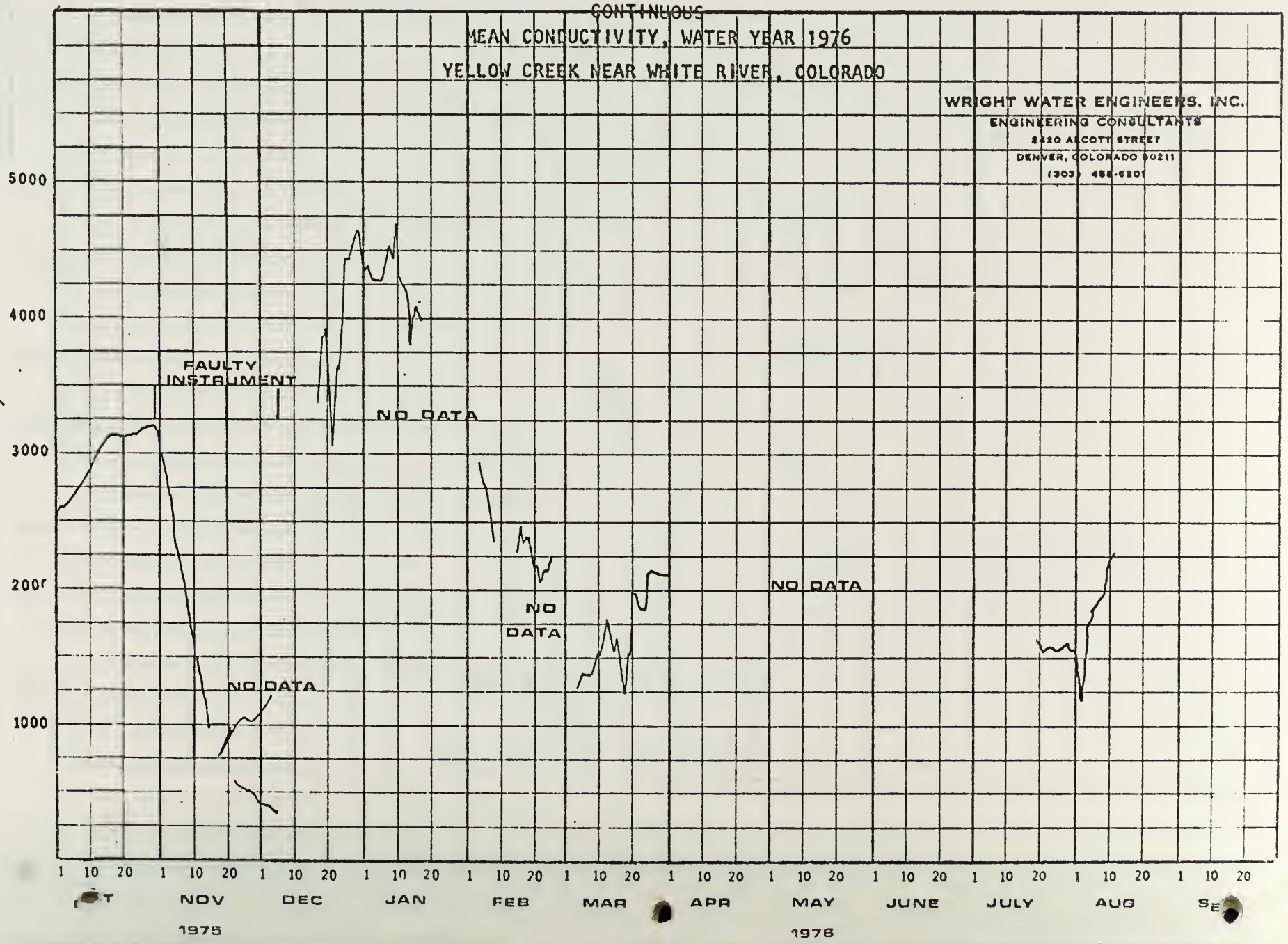
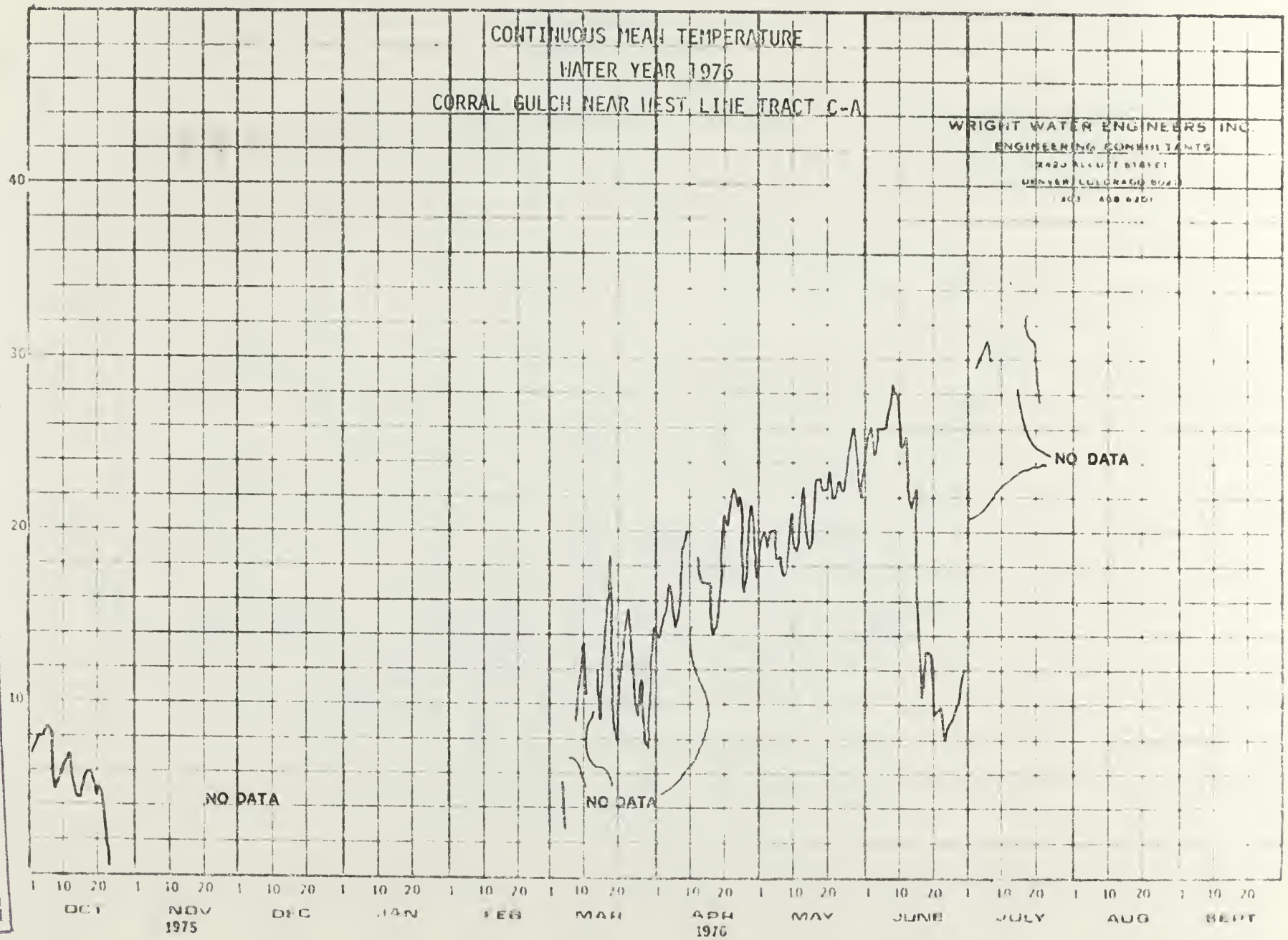
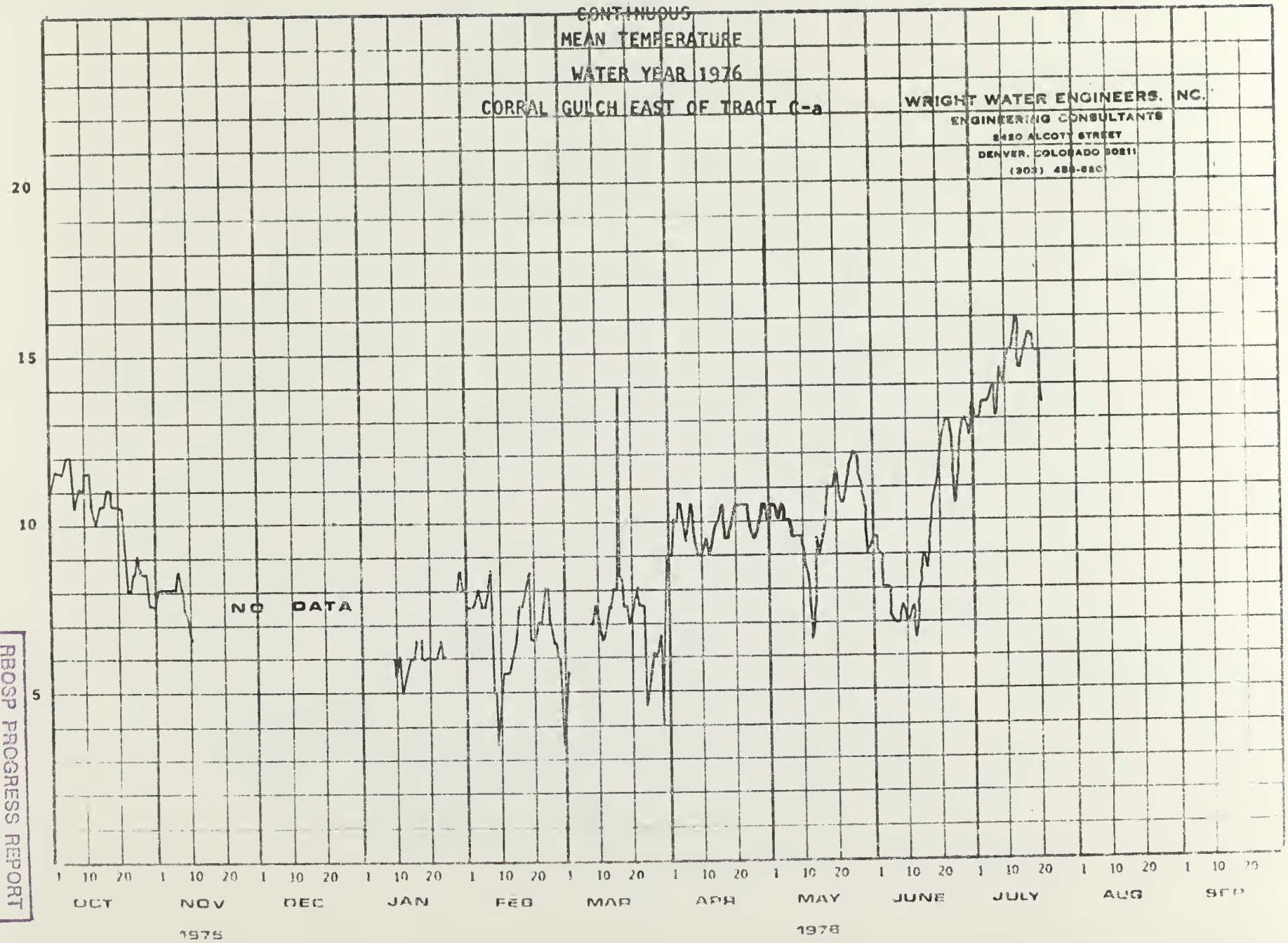

CONTINUOUS
MEAN CONDUCTIVITY, WATER YEAR 1976
YELLOW CREEK NEAR WHITE RIVER, COLORADO
WRIGHT WATER ENGINEERS, INC.
ENGINEERING CONSULTANTS
2420 ALCOTT STREET
DENVER, COLORADO 80211
(303) 455-6201
MEAN CONDUCTIVITY µMHOS/CM
5000
4000
3000
2000
1000
FAULTY INSTRUMENT
NO DATA
NO DATA
NO DATA
NO DATA
1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20
OCT NOV DEC JAN FEB MAR APR MAY JUNE JULY AUG SEP
1975
1976

Figure 1.2-15



RBOSP PROGRESS REPORT

Figure 1.2-16



MEAN TEMPERATURE °C

Figure 1.2-17

RBOSP PROGRESS REPORT

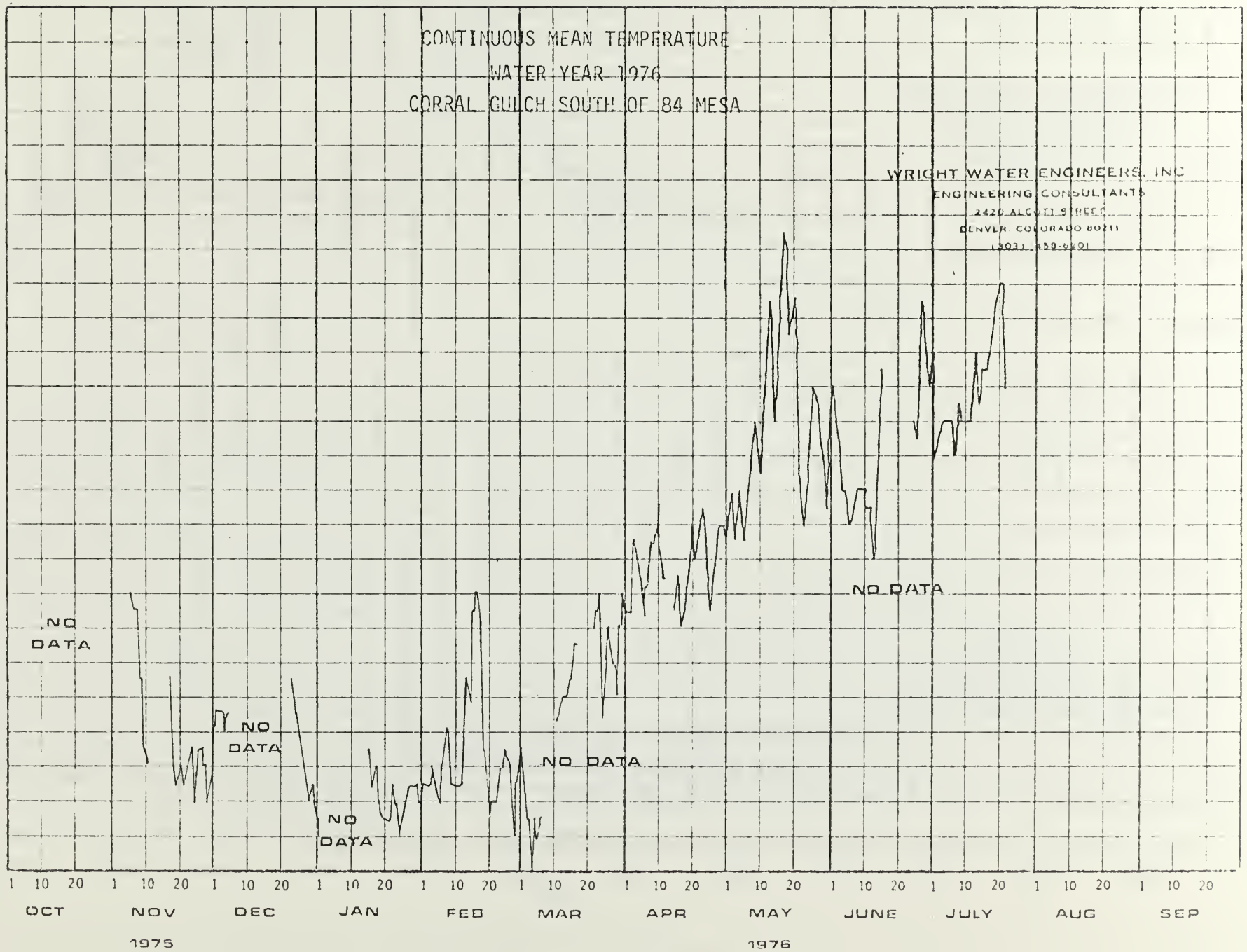


Figure 1.2-18

RBOSP PROGRESS REPORT

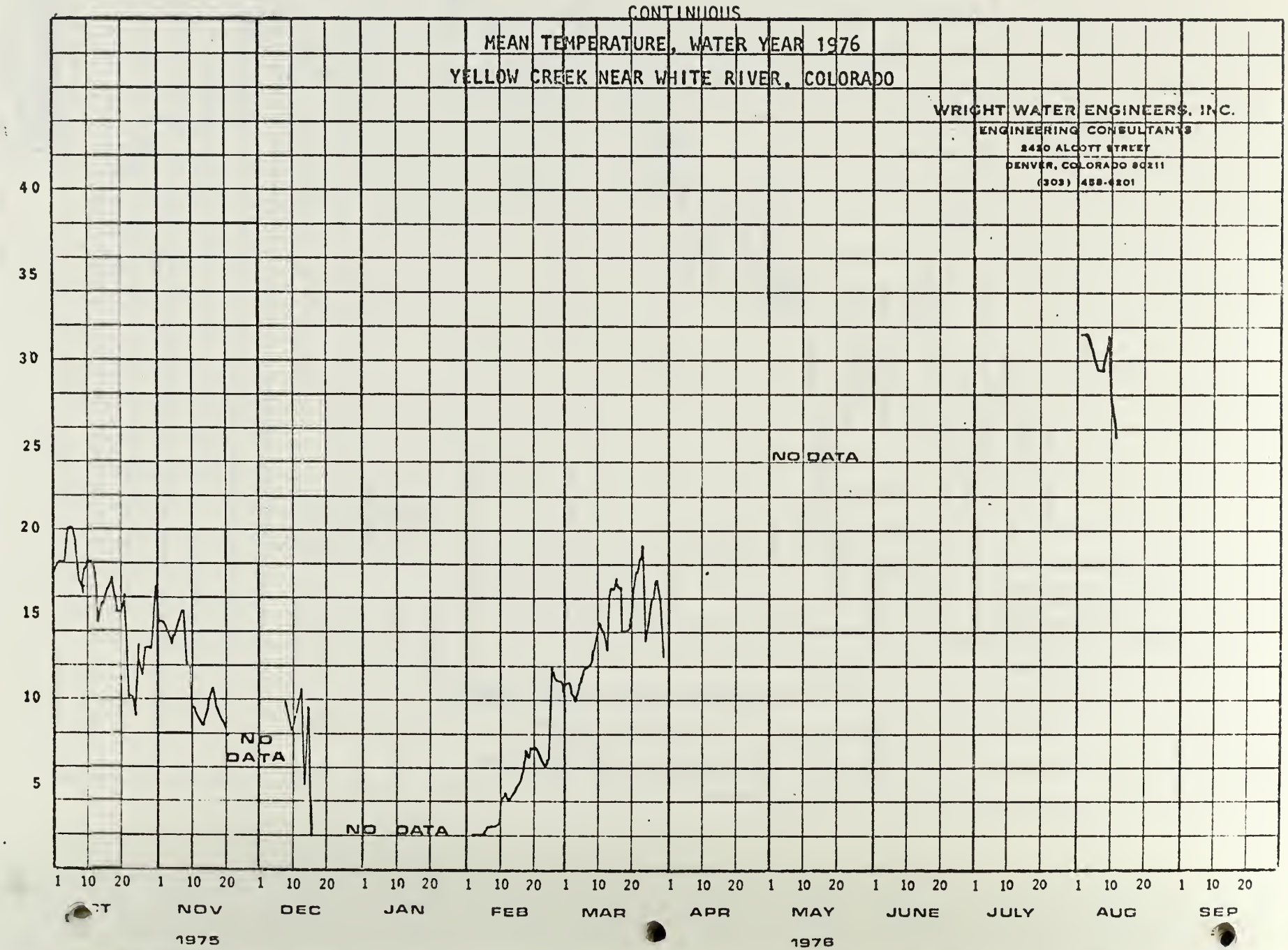

CONTINUOUS
MEAN TEMPERATURE, WATER YEAR 1976
YELLOW CREEK NEAR WHITE RIVER, COLORADO
WRIGHT WATER ENGINEERS, INC.
ENGINEERING CONSULTANTS
2490 ALCOTT STREET
DENVER, COLORADO 80211
(303) 458-4201
MEAN TEMPERATURE °C
40
35
30
25
20
15
10
5
NO DATA
NO DATA
NO DATA
1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20
OCT NOV DEC JAN FEB MAR APR MAY JUNE JULY AUG SEP
1975
1976

Figure 1.2-19

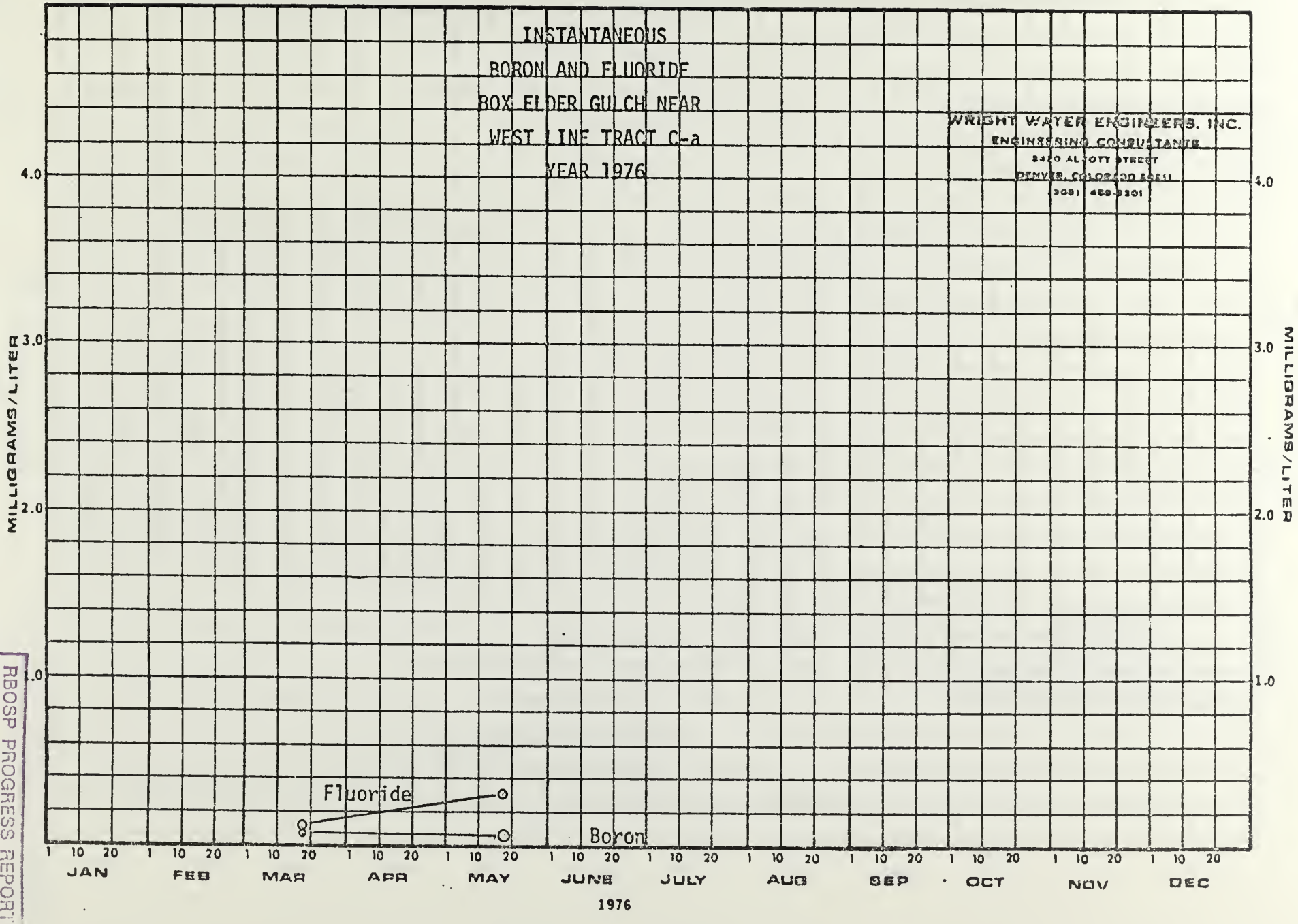


Figure 1.2-20

RBOSP PROGRESS REPORT

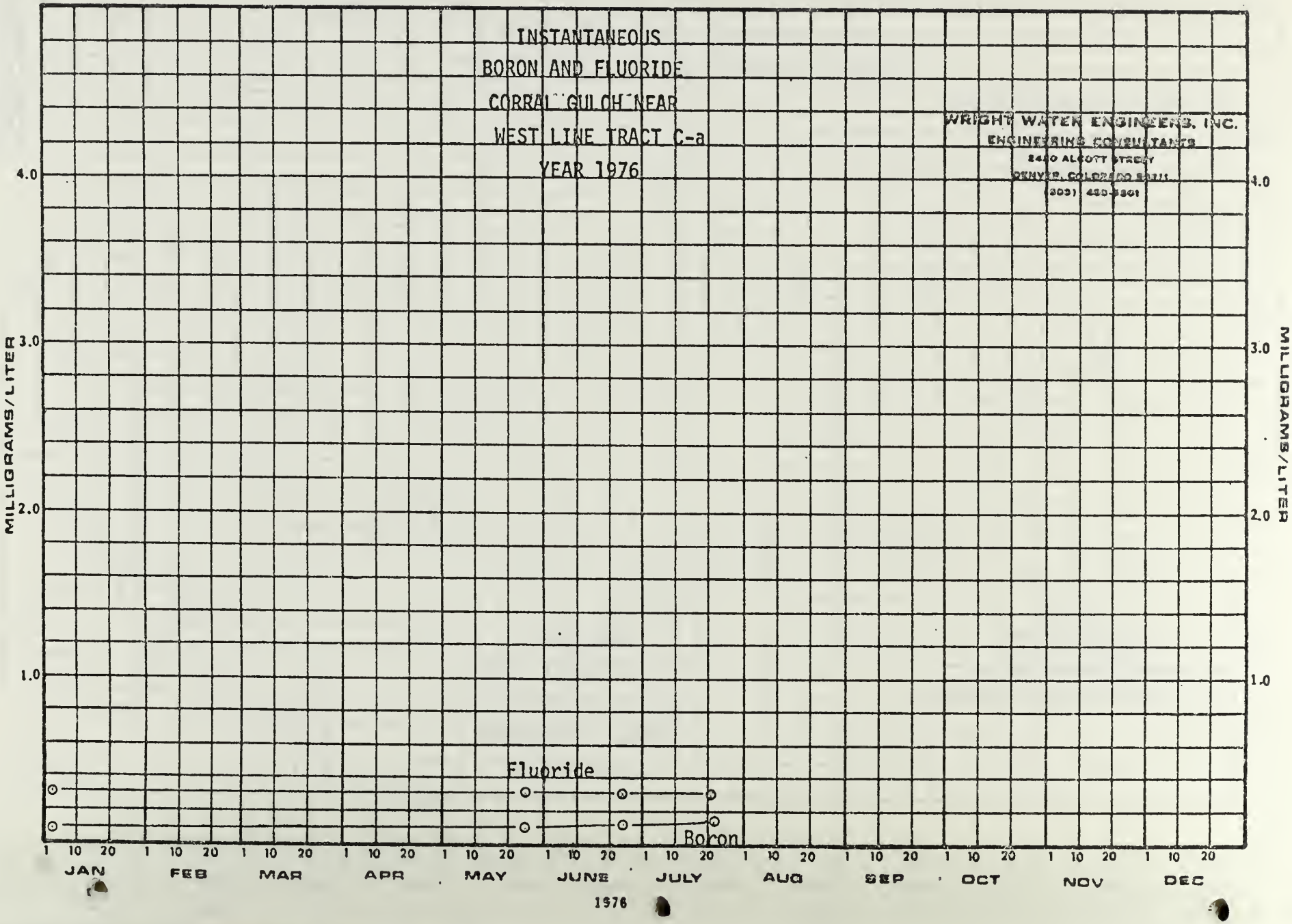

INSTANTANEOUS
BORON AND FLUORIDE
CORRAL GULCH NEAR
WEST LINE TRACT C-a
YEAR 1976
WRIGHT WATER ENGINEERS, INC.
ENGINEERING CONSULTANTS
2490 ALCOTT STREET
DENVER, COLORADO 80211
(303) 480-9301
MILLIGRAMS/LITER
4.0
3.0
2.0
1.0
Fluoride
Boron
1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20
JAN FEB MAR APR MAY JUNE JULY AUG SEP OCT NOV DEC
1976

Figure 1.2-21

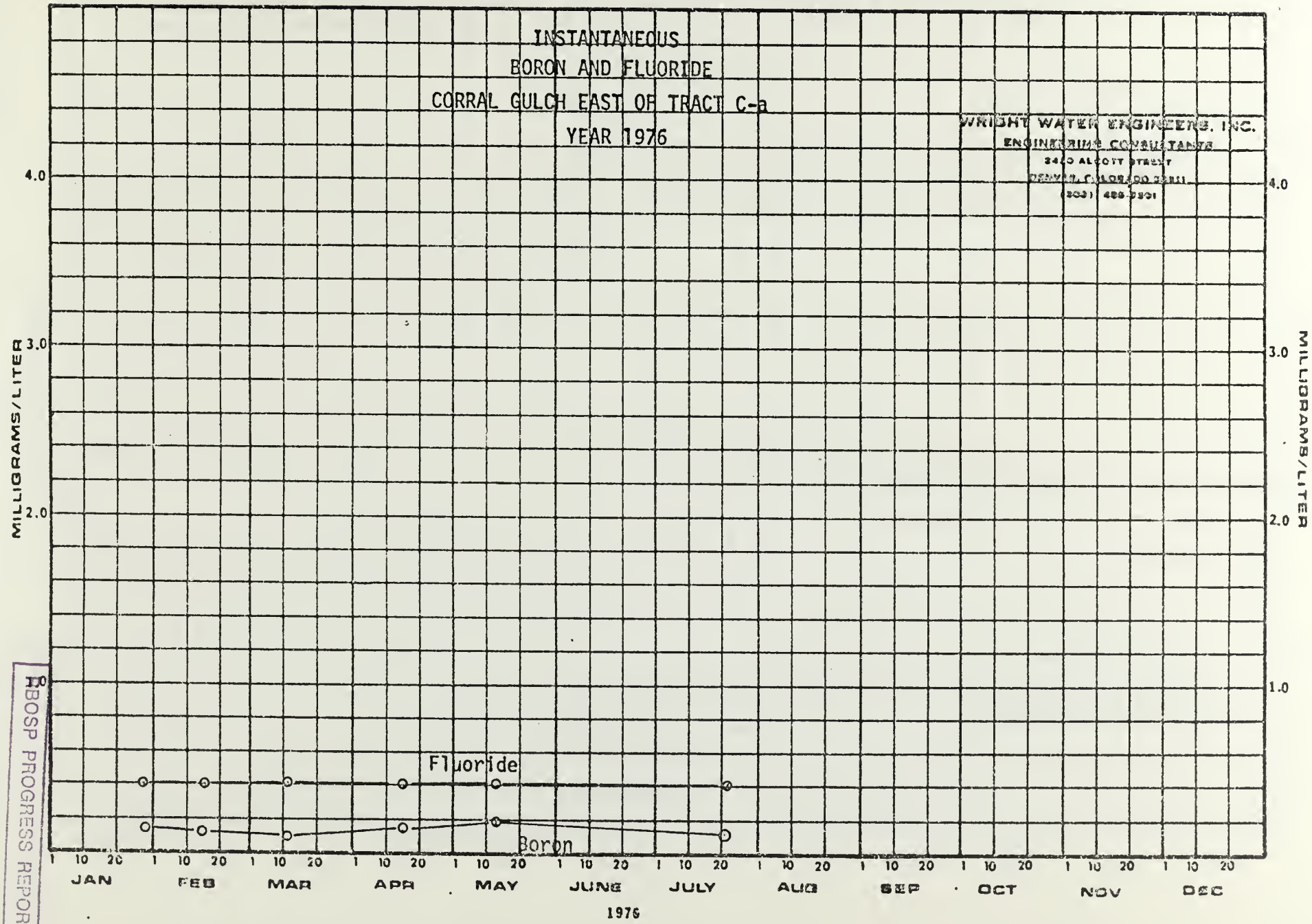


Figure 1.2-22

RBOSP PROGRESS REPORT

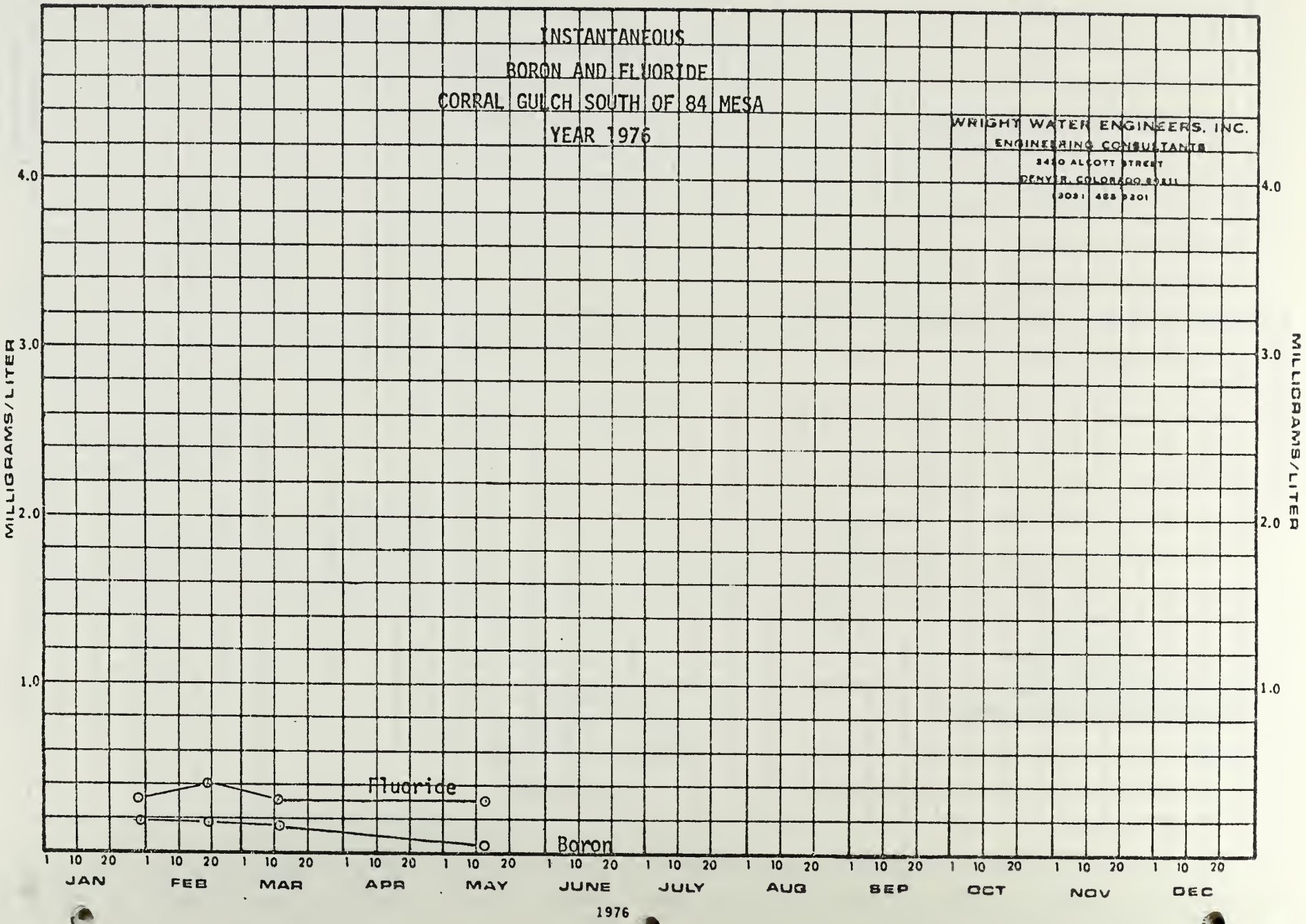

INSTANTANEOUS
BORON AND FLUORIDE
CORRAL GULCH SOUTH OF 84 MESA
YEAR 1976
WRIGHT WATER ENGINEERS, INC.
ENGINEERING CONSULTANTS
2490 ALCOTT STREET
DENVER, COLORADO 80211
(303) 455-9201
MILLIGRAMS/LITER
4.0
3.0
2.0
1.0
Fluorice
Boron
1 10 20
JAN
FEB
MAR
APR
MAY
JUNE
JULY
AUG
SEP
OCT
NOV
DEC
1976

Figure 1.2-23

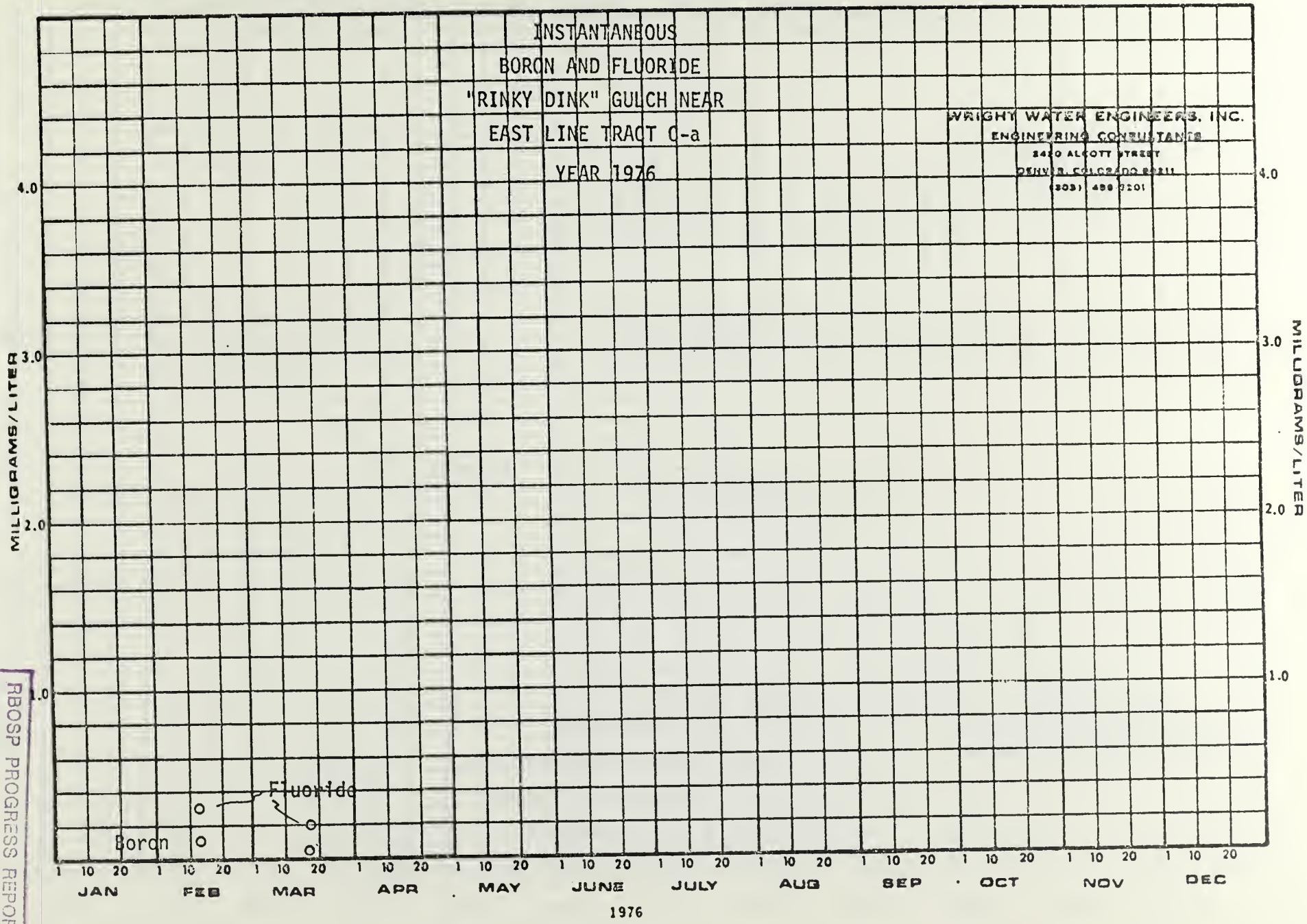


Figure 1.2-24

RBOSP PROGRESS REPORT

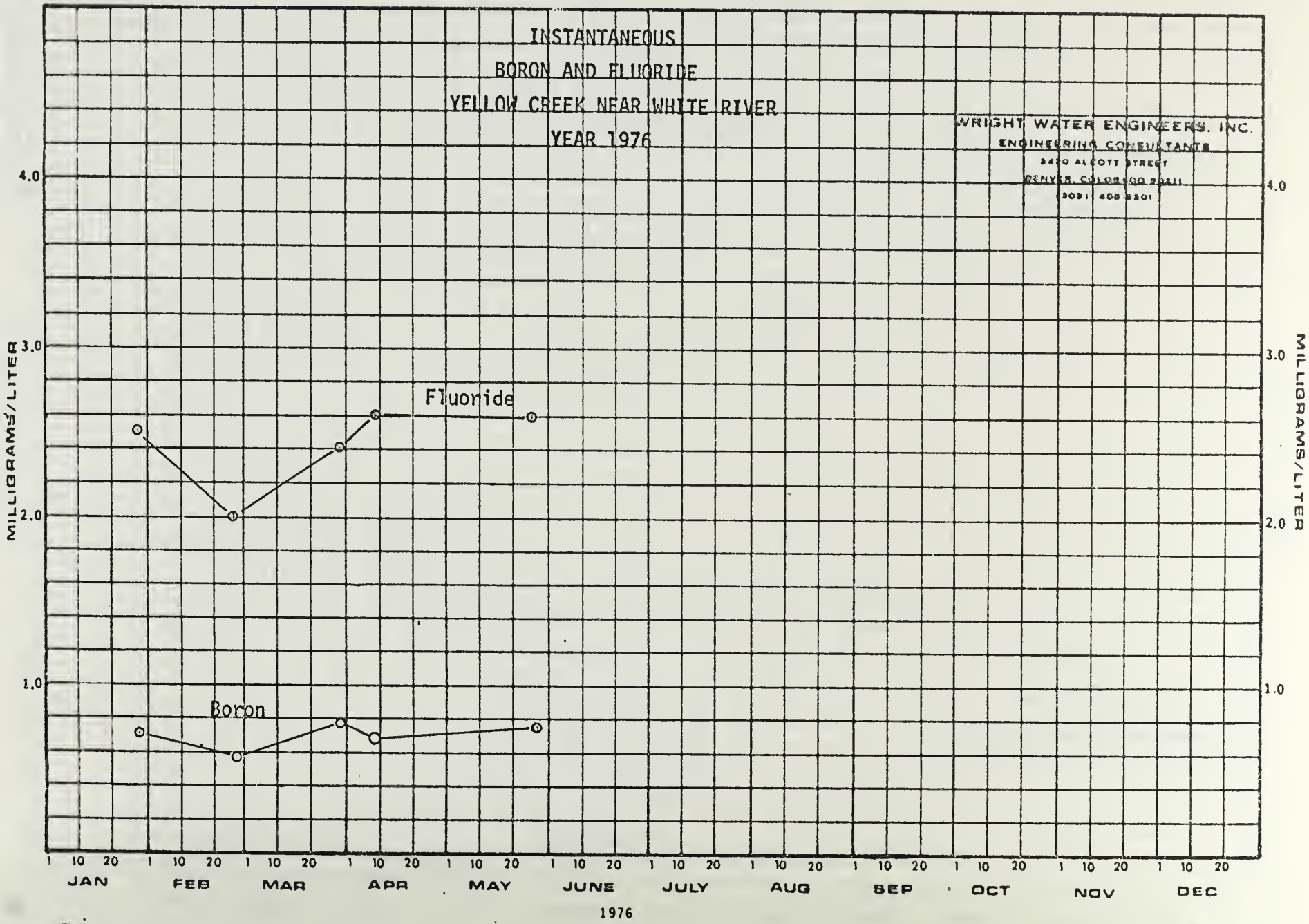

INSTANTANEOUS
BORON AND FLUORIDE
YELLOW CREEK NEAR WHITE RIVER
YEAR 1976
WRIGHT WATER ENGINEERS, INC.
ENGINEERING CONSULTANTS
2490 ALCOTT STREET
DENVER, COLORADO 80211
(303) 455-5501
Fluoride
Boron
MILLIGRAMS/LITER
4.0
3.0
2.0
1.0
1 10 20
JAN
FEB
MAR
APR
MAY
JUNE
JULY
AUG
SEP
OCT
NOV
DEC
1976

Figure 1.2-25

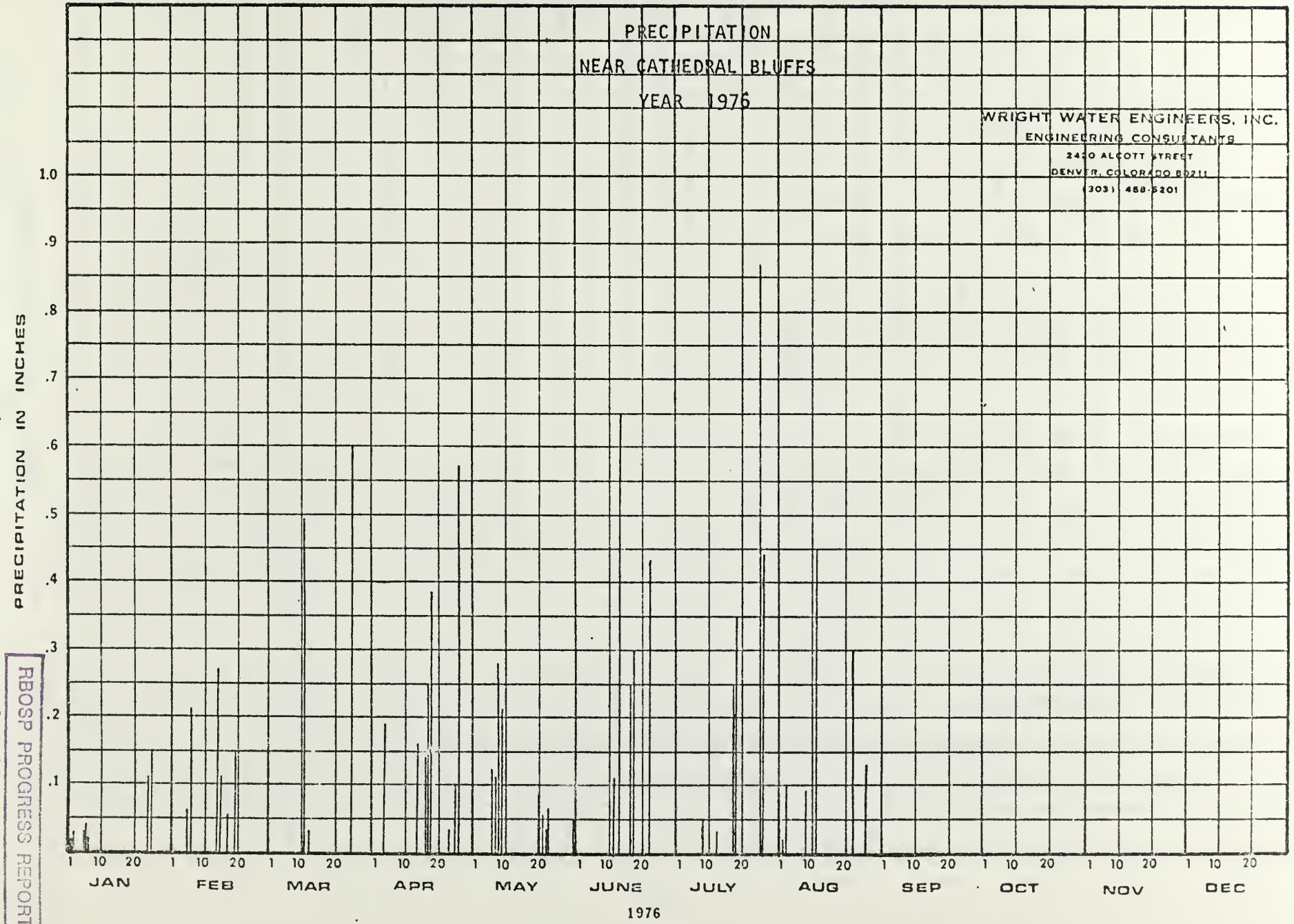


Figure 1.2-26

RBOSP PROGRESS REPORT

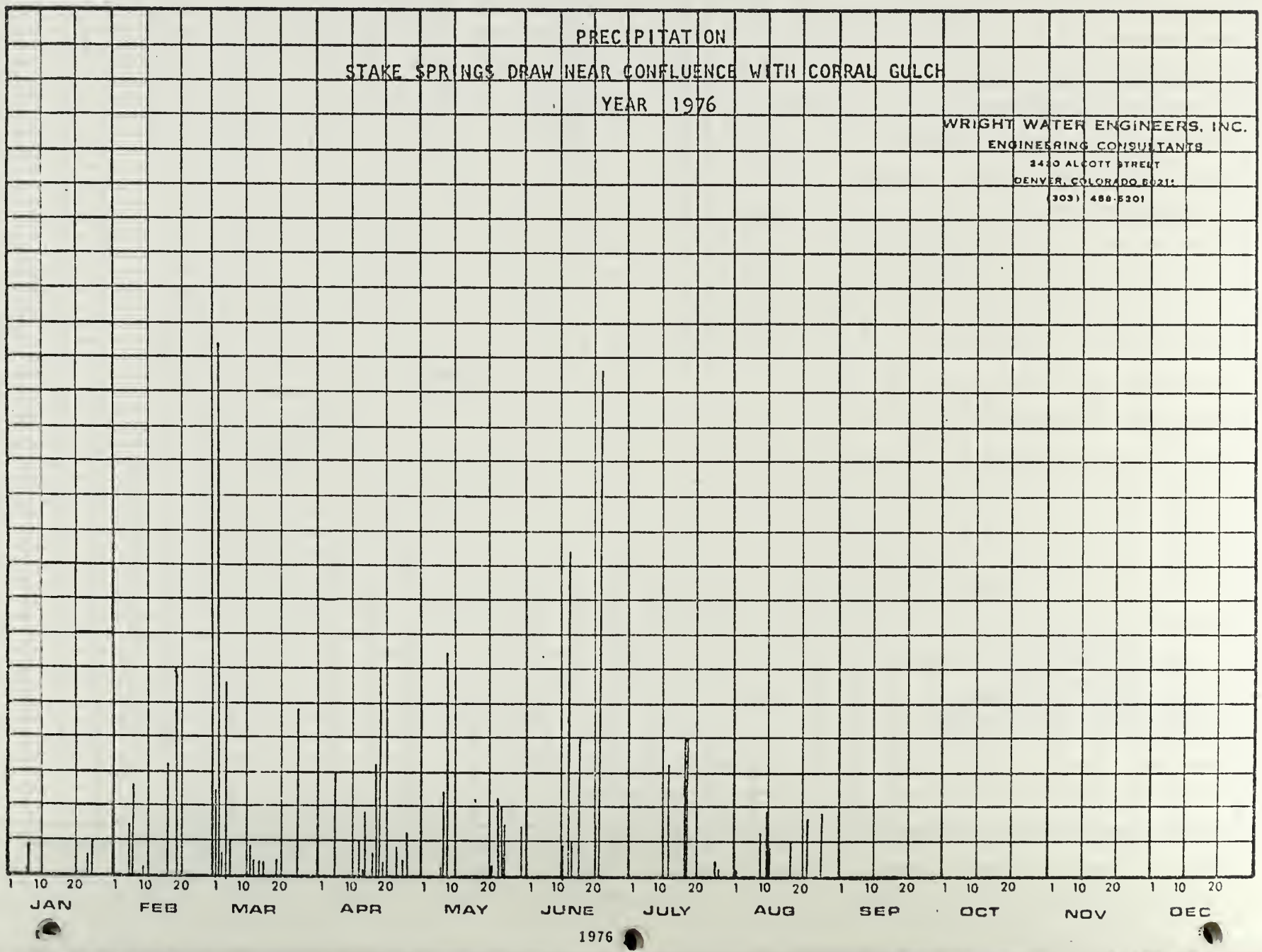

PRECIPITATION
STAKE SPRINGS DRAW NEAR CONFLUENCE WITH CORRAL GULCH
YEAR 1976
WRIGHT WATER ENGINEERS, INC.
ENGINEERING CONSULTANTS
2420 ALCOTT STREET
DENVER, COLORADO 80211
(303) 458-5201
PRECIPITATION IN INCHES
1.0
.9
.8
.7
.6
.5
.4
.3
.2
.1
1 10 20
JAN
FEB
MAR
APR
MAY
JUNE
JULY
AUG
SEP
OCT
NOV
DEC
1976

Figure 1.2-27

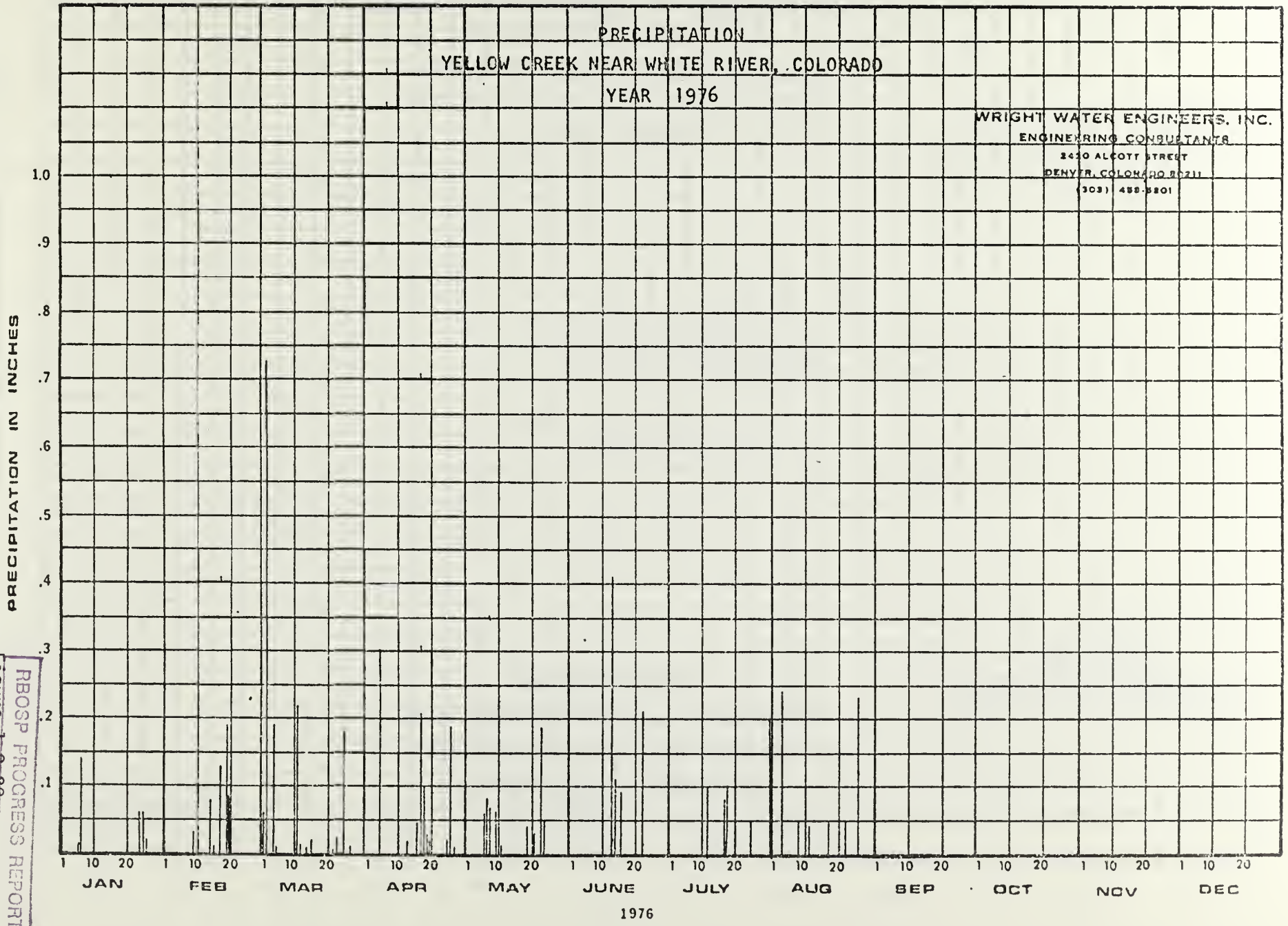


Figure 1.2-28

RBOSP PROGRESS REPORT

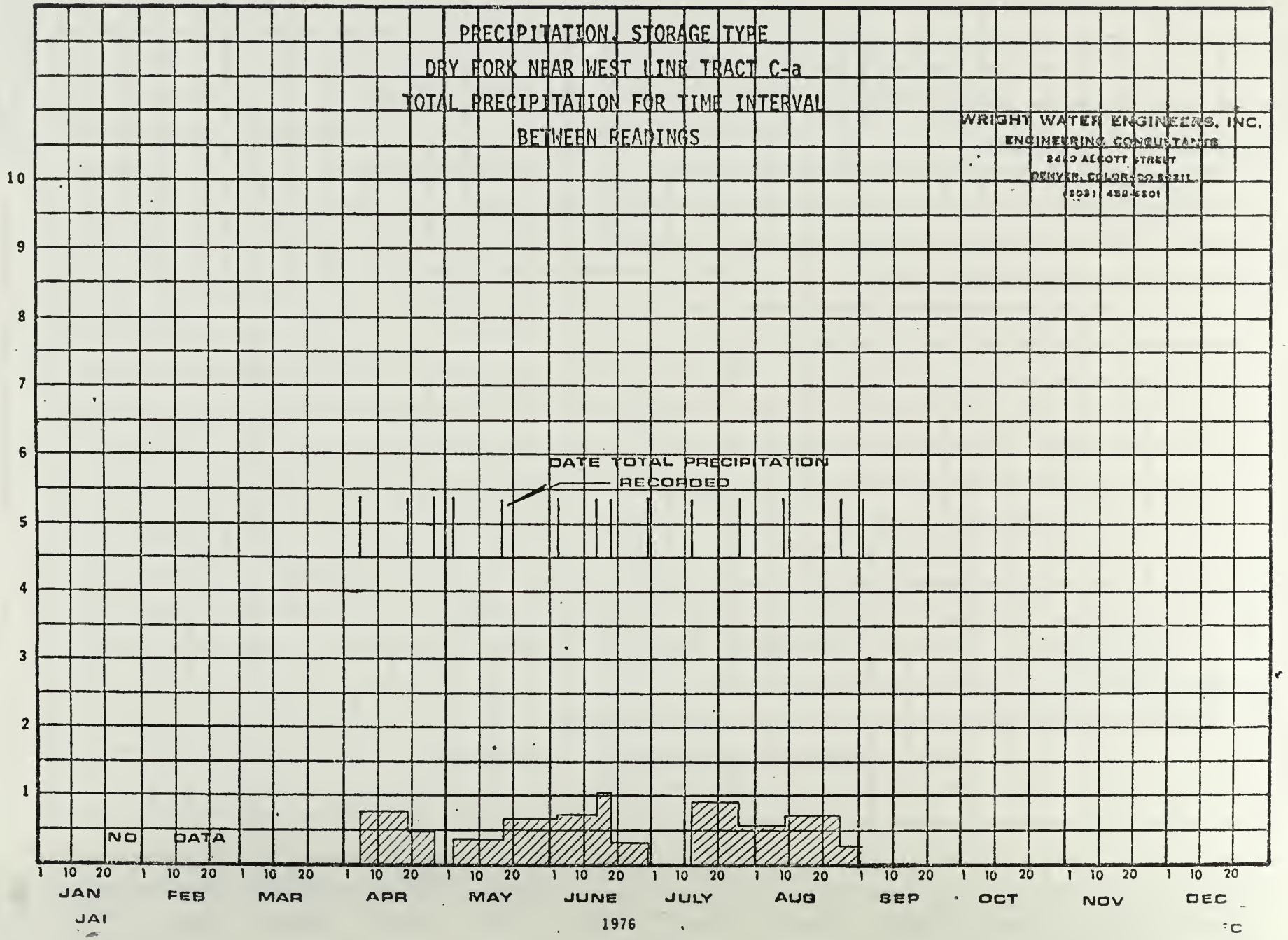

PRECIPITATION, STORAGE TYPE
DRY FORK NEAR WEST LINE TRACT C-a
TOTAL PRECIPITATION FOR TIME INTERVAL
BETWEEN READINGS
WRIGHT WATER ENGINEERS, INC.
ENGINEERING CONSULTANTS
2490 ALCOTT STREET
DENVER, COLORADO 80211
(303) 458-5501
PRECIPITATION IN INCHES
10
9
8
7
6
5
4
3
2
1
DATE TOTAL PRECIPITATION RECORDED
NO DATA
1 10 20
JAN
FEB
MAR
APR
MAY
JUNE
JULY
AUG
SEP
OCT
NOV
DEC
1976

Figure 1.2-29

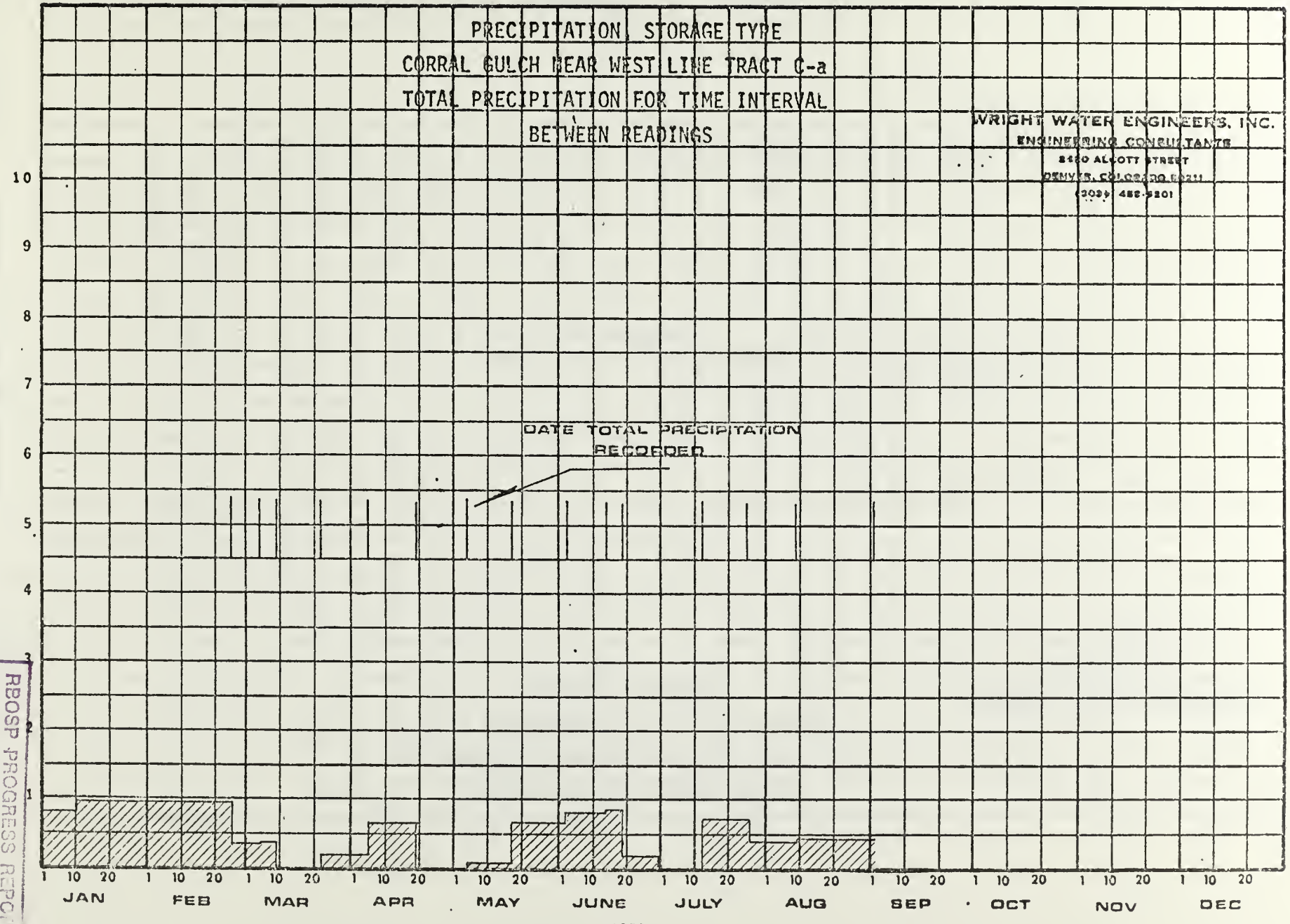


Figure T.2-30

RBOSP PROGRESS REPORT

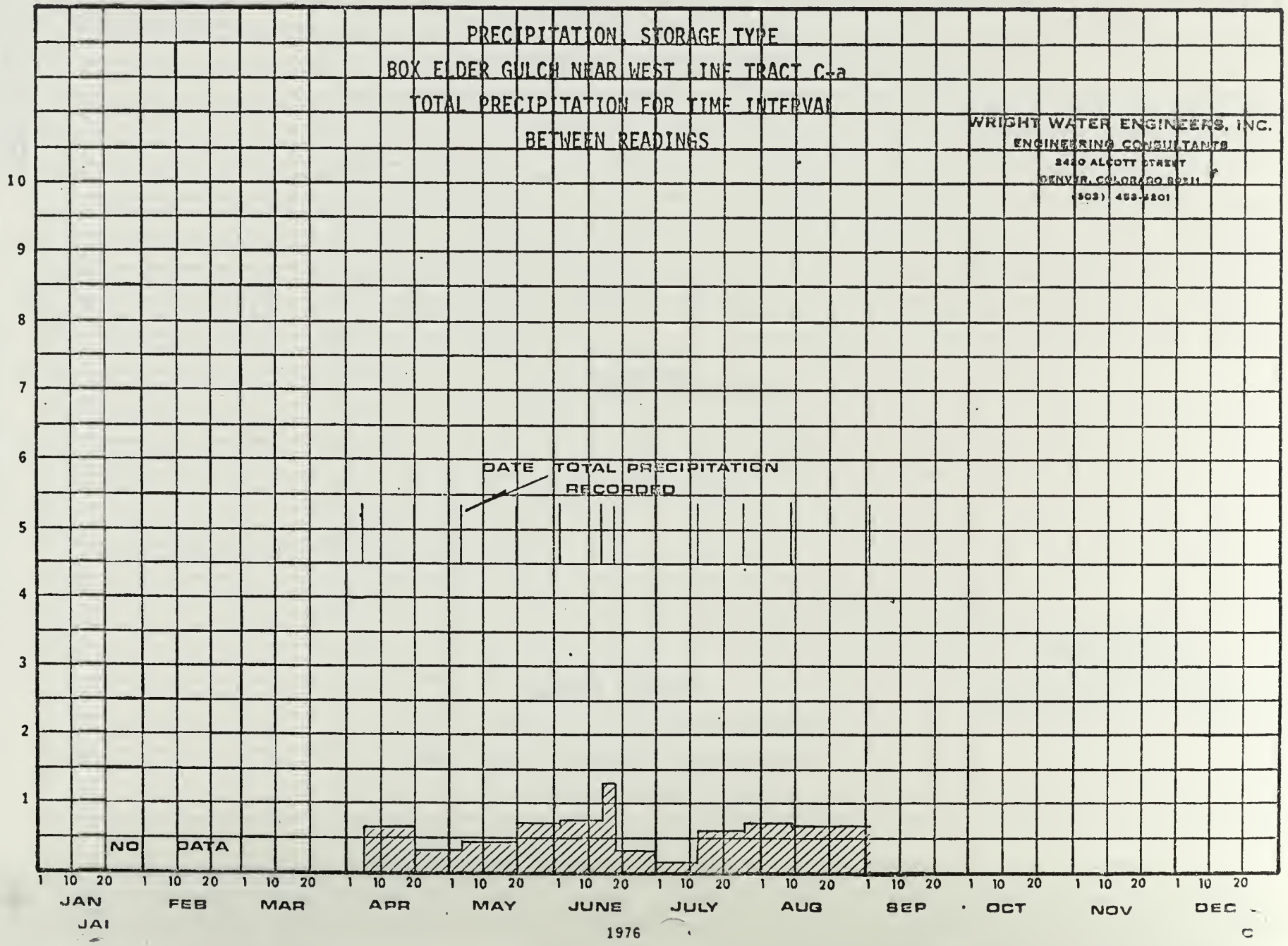

PRECIPITATION, STORAGE TYPE
BOX ELDER GULCH NEAR WEST LINE TRACT C-a
TOTAL PRECIPITATION FOR TIME INTERVAL
BETWEEN READINGS
WRIGHT WATER ENGINEERS, INC.
ENGINEERING CONSULTANTS
2490 ALCOTT STREET
DENVER, COLORADO 80211
(303) 458-5201
PRECIPITATION IN INCHES
10
9
8
7
6
5
4
3
2
1
DATE TOTAL PRECIPITATION RECORDED
NO DATA
1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20
JAN FEB MAR APR MAY JUNE JULY AUG SEP OCT NOV DEC
JAI
1976

Figure 1.2-31

1.2.3 ALLUVIAL AQUIFERS

The drilling and completion of fifteen alluvial aquifer test holes associated with Tract C-a were described in RBOSP Progress Reports 2,3, and 4. The holes which encountered water were: G-S S-7, G-S S-8, G-S S-11, G-S S-12, G-S S-19, G-S S-22, G-S S-23 and G-S S-24. Continuous water level recorders (Stevens Type F) were installed at G-S S-7, G-S S-8, G-S S-11 and G-S S-12. Water quality information, conductivity, temperature, pH, and water level data for the alluvial holes monitored on or near Tract C-a are shown in Figures 1.2-32 through 1.2-47.

According to the schedule approved by the Area Oil Shale Supervisor (AOSS) for the alluvial aquifer monitoring program, samples for standard chemical analysis should be collected in February, July, November, and monthly during the snowmelt flash flood season from April through September, Table 1.2-11. The schedule also requires that all samples from the alluvial holes be filtered prior to laboratory analysis. This process is done in the field by means of a pressurized filtration unit.

Water level data for the alluvial holes are summarized in Table 1.2-12. During the quarter, the average water level declined in the alluvial holes by about 1.2 feet. Alluvial holes G-S S-7, G-S S-8 , G-S S-19, and G-S S-23 showed a consistent downward trend in water levels through the quarter. Two of the holes, G-S S-11 and G-S S-24, showed water level declines from late June through July, then rose from late July through August. The water level for alluvial hole G-S S-22 rose in late June through July, then fell during the last part of the quarter. A consistent upward trend in the water level was observed in G-S S-12.

Field measurements of conductivity showed an average quarterly increase of 220 umhos/cm in holes G-S S-7, G-S S-11, G-S S-12, G-S S-22, G-S S-24, with an average decrease of 350 umhos/cm

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observed in holes G-S S-8, G-S S-19, and G-S S-23. The August measurement of specific conductance ranged from 900 umhos/cm near the western boundary of the tract to 1950 umhos/cm near the 84 Mesa. Temperature extremes ranged from 6.7^{o} C. at G-S S-7 in June to 12.2^{o} C. in G-S S-22 in July. Five holes that showed overall quarterly decreases in water temperature are G-S S-11, G-S S-12, G-S S-19, G-S S-22, and G-S S-23, while temperatures in G-S S-7, S-8 and S-24 increased.

Measurements of pH in all holes remained between 6.1 and 6.9. G-S S-23 showed slightly decreasing values, with the rest of the holes showing increases or little change.

Correlation of increases between field-measured parameters (temperature, specific conductance, pH) was not possible. In part, this may be due to the lack of enough data points. However, the general trends for this quarter reflect the expected seasonal nature of precipitation and temperature. Increases in water levelsgenerally follow the increase in precipitation. Temperature increases reflect the seasonal influence.

Overall water quality of the alluvial aquifer remained relatively stable. Constituents showing major amounts are: bicarbonate, magnesium, silicon dioxide, sodium, total dissolved solids, alkalinity, and sulfate. Calcium and carbonate concentrations increased by 50% to 100% as compared to last quarter. Other constituents which showed significant decreases were iron, boron, and nitrate.

Tables 1.2-13 and 1.2-14 present the summaries of the water quality analyses.

Water quality samples were not collected from alluvial hole G-S S-8 in July 1976, because insufficient water was available.

TABLE 1.2-11

DATA COLLECTION SCHEDULE FOR ALLUVIAL HOLES

Monthly

Water Levels Measured

February, July, November Plus Snowmelt-Flash Flood Seasons (April to September)

Water Samples Analyzed For:

Alkalinity	Dissolved Solids	Silica
Ammonia	Fluoride	Sodium
Boron	Iron	Sulfate
Bicarbonate	Magnesium	Color
Calcium	Manganese	Odor
Carbonate	Kjeldahl Nitrogen	pH
Chloride	Nitrate plus Nitrite	Temperature
Conductance	Orthophosphate	
Dissolved Organic Carbon	Dissolved Phosphate	
	Potassium	

February, July, November

Water Samples Analyzed For:

DO	Ba	Al
Bromide	Be	As
Cyanide	Bi	Cd
BOD	Ge	Cr
COD	Ga	Cu
Phenols	Ni	Pb
Sulfide	Sr	Li
Radioactivity	Ti	Mo
Gross Alpha	V	Hg
4 pci/l	Zr	Se
226 Ra		Sr
		Zn
Gross Beta		
100 pci/l		
Sr^{90}		
Ce^{137}		

July or August

Samples Analyzed For:

Fecal Coliform
Total Coliform
MBAS

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TABLE 1.2-12
ALLUVIAL HOLES

COMPARATIVE WATER DEPTHS

	June - August Depth in Feet			Depth in Feet		
Hole No.	Maximum	Minimum	Quarterly* Change	Maximim	Minimum	Quarterly* Change
G-S S- 6			Dry			
G-S S- 7	24.57	22.17	-2.40			
G-S S- 8	35.77	29.02	-6.75			
G-S S-11	44.78	43.83	-0.03			
G-S S-12	33.71	28.11	+5.60			
G-S S-13			Dry			
G-S S-14			Dry			
G-S S-15			Dry			
G-S S-16			Dry			
G-S S-17			Dry			
G-S S-18			Dry			
G-S S-19	58.18	53.24	-4.94			
G-S S-22	65.91	65.06	+ .51			
G-S S-23	29.51	28.62	- .89			
G-S S-24	6.95	6.25	- .44			

* Positive value indicates water level rise

TABLE 1.2-13

SUMMARY OF WET CHEMICAL ANALYSIS

ALLUVIAL AQUIFER

Values in mg/l

MARCH 1975 THROUGH AUGUST 1976

Item	Low	High	Average	# Items Averaged	Std. Dev.
Alkalinity	310	1505	474.180	134	120.858
Aluminum	< 0.100	1.200	0.140	10	.375
Ammonia	0.030	6.4	0.537	107	0.883
Arsenic	< 0.010	< 0.100		111	0.001
Barium	< 1.000	< 1.000		97	
Bicarbonate	360	780.000	563.134	134	100.734
Boron	< 0.010	27.000	1.103	126	2.871
Cadmium	< 0.010	< 1.100	0.031	111	0.111
Calcium	28.000	240.000	99.463	134	35.876
Carbonate	< 0.010	605.000	10.737	133	53.378
Chloride	1.300	71.000	17.399	134	8.005
Chromium	< 0.010	0.200	0.008	110	0.036
Conductivity (umhos/cm)	860.000	2370.000	1549.480	134	359.286
Copper	< 0.010	8.000	0.481	111	1.179
Cyanide	< 0.010	0.200	0.004	112	0.020
Dissolved Solids	640.000	2090.000	1191.978	134	291.505
Fluoride	< 0.100	1.200	0.335	133	0.181
Gross Alpha (pci/l)	1.400	31.000	11.980	85	6.720
Gross Beta (pci/l)	1.000	35.000	13.346	30	10.009
Hardness (total)	280.000	820.000	606.875	120	141.009
Iron	< 0.050	28.000	5.573	134	5.957
Lead	0.010	13.000	0.346	110	1.239
Magnesium	3.700	150.000	87.179	134	36.417
Manganese	< 0.050	27.000	2.705	126	4.374
Mercury	< 0.001	< 0.010		111	
Nickel	0.010	0.200	0.074	97	0.057
Nitrate	< 0.100	165.000	6.434	134	15.154
pH	< 6.000	7.200	6.425	132	0.645
Phosphate	< 0.010	1.600	0.059	134	0.187
Selenium	< 0.010	< 0.100		111	
Silicon Dioxide	16.000	44.000	30.134	134	5.366
Silver	< 0.010	< 0.100	0.007	96	0.013
Sodium	72.000	450.000	188.515	134	59.044
Sulfate	145.000	1000.000	457.649	134	158.339
Zinc	0.100	13.000	0.669	109	1.404
Potassium	< 1.000	14.000	4.942	36	3.790
Lithium	< 0.100	0.100	0.014	14	0.036
Total Organic Carbon	2.900	292.000	47.858	98	60.328
Nitrite -N	< 0.010	0.100	0.004	29	0.019
Bromide	0.100	0.900	0.717	6	0.306
Chemical Oxygen Demand	2.500	85.000	18.893	14	20.774
Phenols	< 0.001	< 0.001		14	
Kjeldahl N	< 0.100	8.800	1.811	37	19.973
Beryllium	< 0.020	2.500	0.612	8	0.884
Ortho Phosphate	< 0.100	1.000	0.055	31	0.182
Ammonia -N	< 0.100	5.300	0.753	15	1.378
Dissolved Organic Carbon	2.000	3.000	2.125	8	0.354
MBAS	< 0.010	< 0.010		6	
Total Coliform	< 10.000	250.000	81.429	7	91.911
Fecal Colifrom	< 10.000	40.000	8.571	7	15.736

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TABLE 1.2-14

SUMMARY OF QUALITATIVE SPECTROGRAPHIC ANALYSIS

ALLUVIAL AQUIFER

Values in mg/l

MARCH 1975 THROUGH AUGUST 1976

Item	Low	High	Average	# Items Averaged	Std. Dev.
Aluminum	0.005	5.000	0.487	111	0.987
Antimony	---	---	---	0	---
Arsenic	---	---	---	0	---
Barium	0.001	0.050	0.008	49	0.013
Beryllium	0.001	0.001	0.001	5	0.000
Bismuth	---	---	---	0	---
Boron	0.010	0.500	0.344	111	0.179
Cadmium	---	---	---	0	---
Calcium	10.000	Major	10.000	6	0.000
Cerium	---	---	---	0	---
Cesium	0.001	0.001	0.001	1	0.000
Chromium	---	0.020	0.004	17	0.006
Cobalt	0.001	0.001	0.001	4	0.000
Columbium	---	---	---	0	---
Copper	0.001	0.050	0.014	110	0.014
Dysprosium	---	---	---	0	---
Erbium	---	---	---	0	---
Europium	---	---	---	0	---
Gadolinium	---	---	---	0	---
Gallium	0.001	0.010	0.004	6	0.005
Germanium	0.001	0.001	0.001	1	0.000
Gold	---	---	---	0	---
Hafnium	---	---	---	0	---
Holmium	---	---	---	0	---
Indium	---	---	---	0	---
Iridium	---	---	---	0	---
Iron	0.010	5.000	0.280	11	0.751
Lanthanum	---	---	---	0	---
Lead	0.001	0.500	0.036	45	0.083
Lithium	0.001	0.100	0.007	85	0.015
Lutetium	---	---	---	0	---
Mangesium	5.000	Major	2228.111	9	4405.680
Manganese	0.001	0.500	0.066	104	0.119
Mercury	---	---	---	0	---
Molybdenum	0.001	0.050	0.007	71	0.010
Neodymium	---	---	---	0	---
Nickel	0.001	0.070	0.011	7	0.026
Osmium	---	---	---	0	---
Palladium	---	---	---	0	---
Platinum	---	---	---	0	---
Potassium	0.010	2.000	0.585	111	0.505
Praseodymium	---	---	---	0	---
Radium (pci/l)	0.100	1.200	0.341	61	0.233
Rhenium	---	---	---	0	---
Rhodium	---	---	---	0	---
Rubidium	---	---	---	0	---
Ruthenium	---	---	---	0	---
Samarium	---	---	---	0	---
Scandium	---	---	---	0	---
Selenium	---	---	---	0	---
Silicon	2.000	Major	4.972	109	2.651
Silver	---	0.100	0.008	34	0.024
Sodium	1.000	Major	6.239	88	2.758
Strontium	0.010	0.100	0.105	108	0.089
Tantalum	---	---	---	0	---
Terbium	---	---	---	0	---
Thallium	---	---	---	0	---
Thorium	---	---	---	0	---
Thulium	---	---	---	0	---
Tin	0.001	0.001	0.001	15	0.000
Titanium	0.001	1.000	0.029	91	0.118
Tungsten	---	---	---	0	---
Uranium	---	---	---	0	---
Vanadium	0.001	0.020	0.007	10	0.008
Ytterbium	0.001	0.001	0.001	5	0.000
Yttrium	0.010	0.020	0.010	5	0.004
Zinc	0.001	0.020	0.005	44	0.006
Zirconium	0.010	0.010	0.010	2	0.000

--- Less than minimum detectable amount
Major - Concentration too large to quantify (see wet chemical analysis)

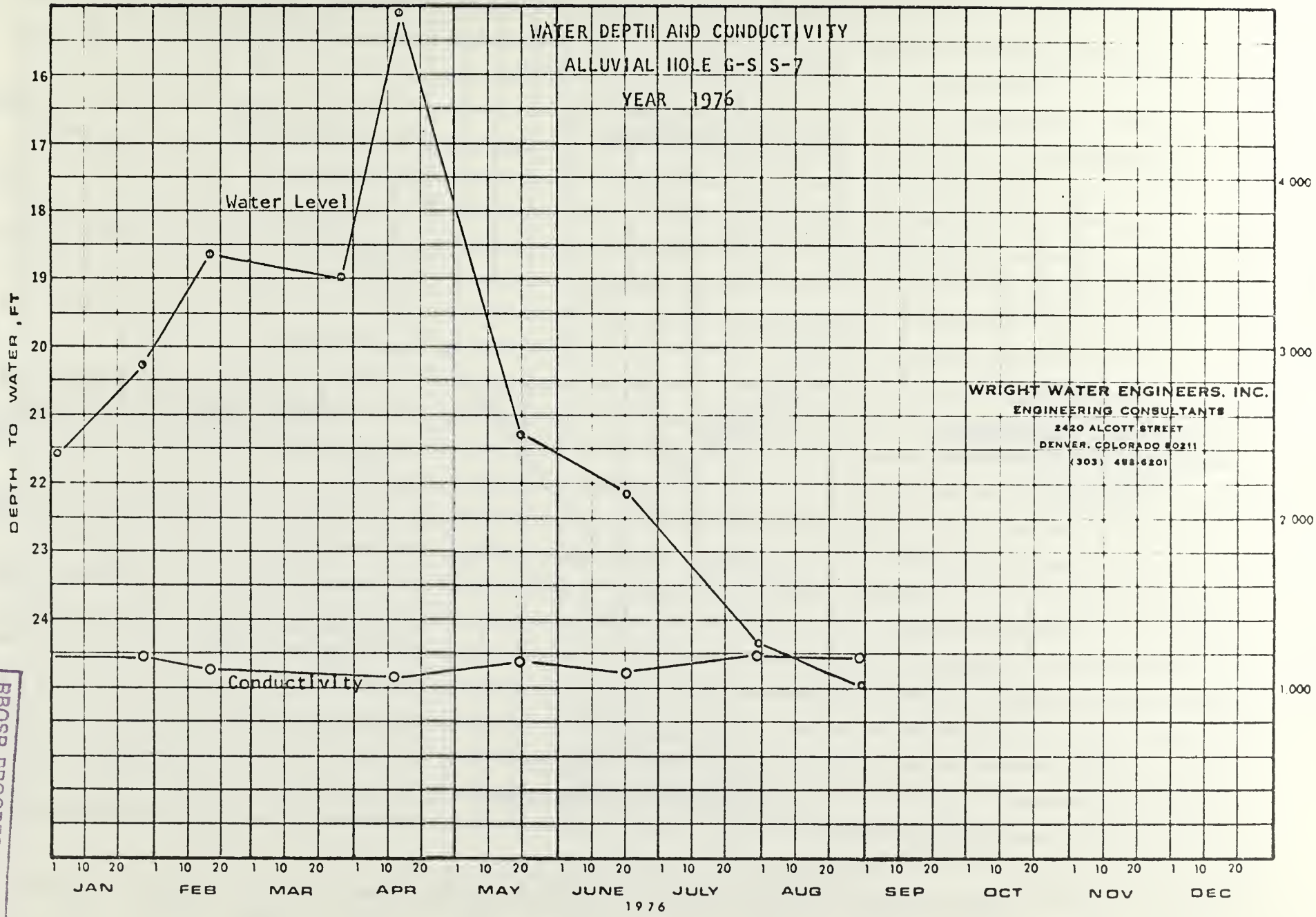
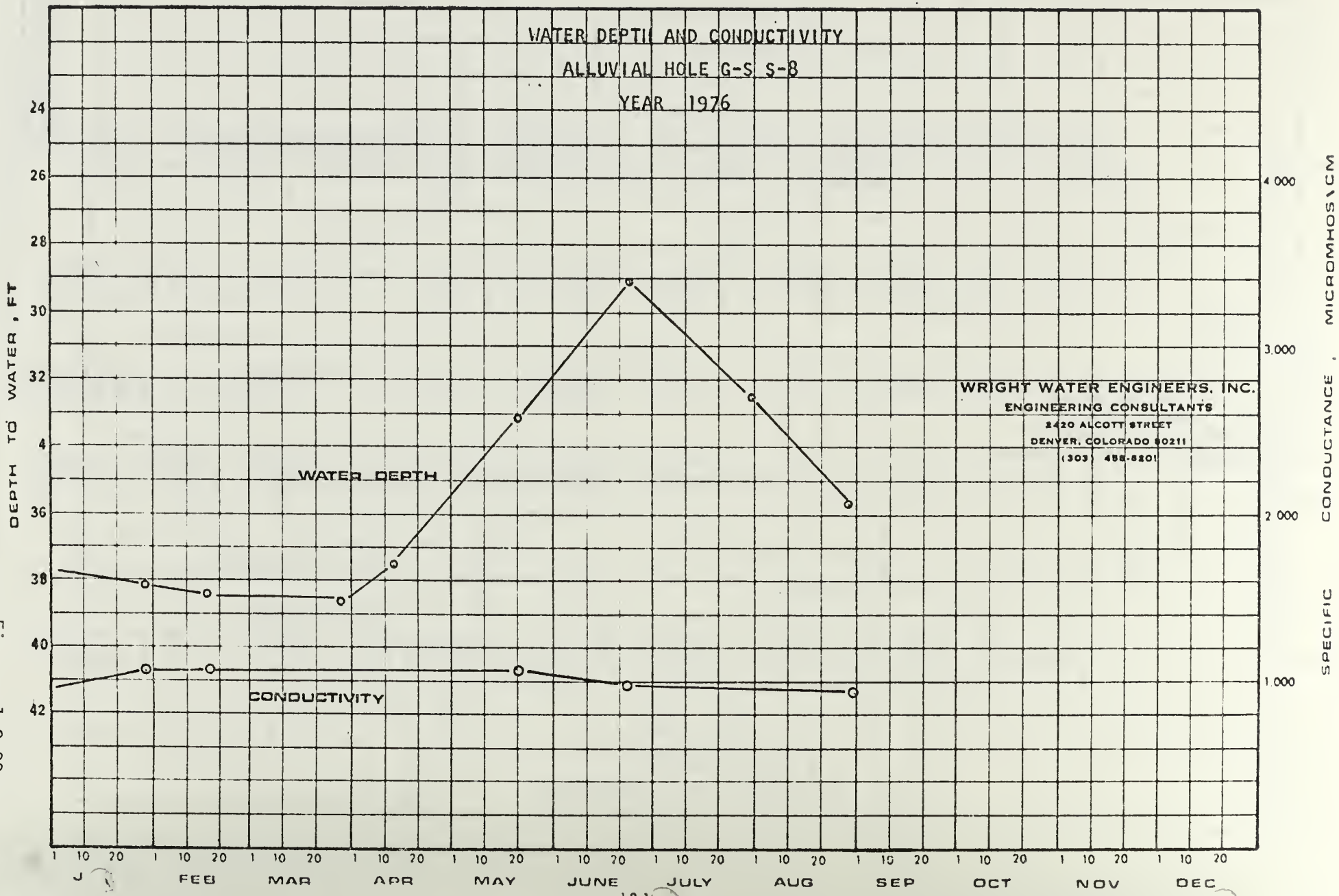


Figure 1.2-32

RBOSP PROGRESS REPORT


WATER DEPTH AND CONDUCTIVITY
ALLUVIAL HOLE G-S S-8
YEAR 1976
DEPTH TO WATER, FT
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26
28
30
32
4
36
38
40
42
SPECIFIC CONDUCTANCE, MICROMHOS\CM
4 000
3.000
2 000
1.000
WATER DEPTH
CONDUCTIVITY
WRIGHT WATER ENGINEERS, INC.
ENGINEERING CONSULTANTS
2420 ALCOTT STREET
DENVER, COLORADO 80211
(303) 458-8201
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DEC
197

Figure 1.2-33

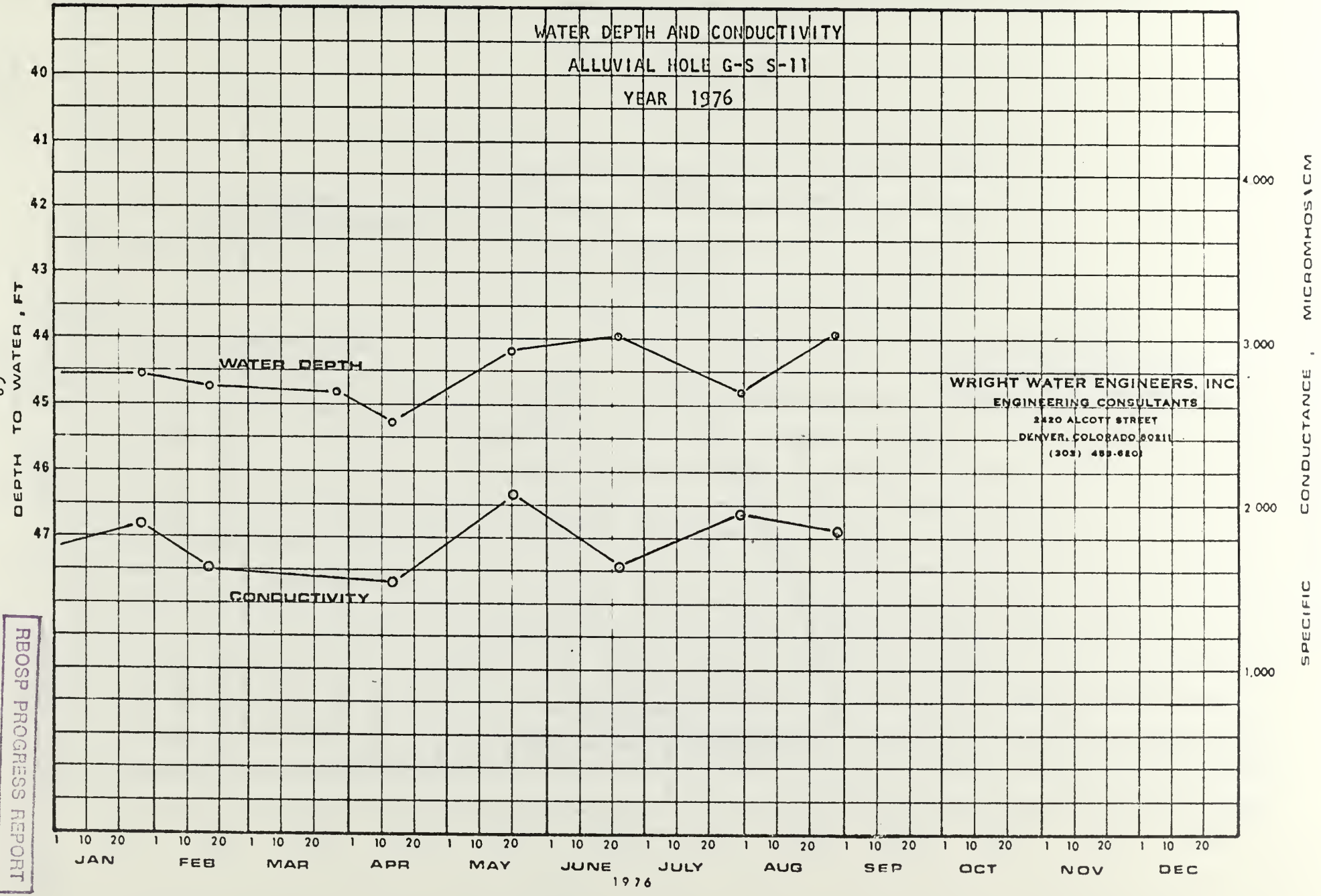


Figure 1.2-34

RBOSP PROGRESS REPORT

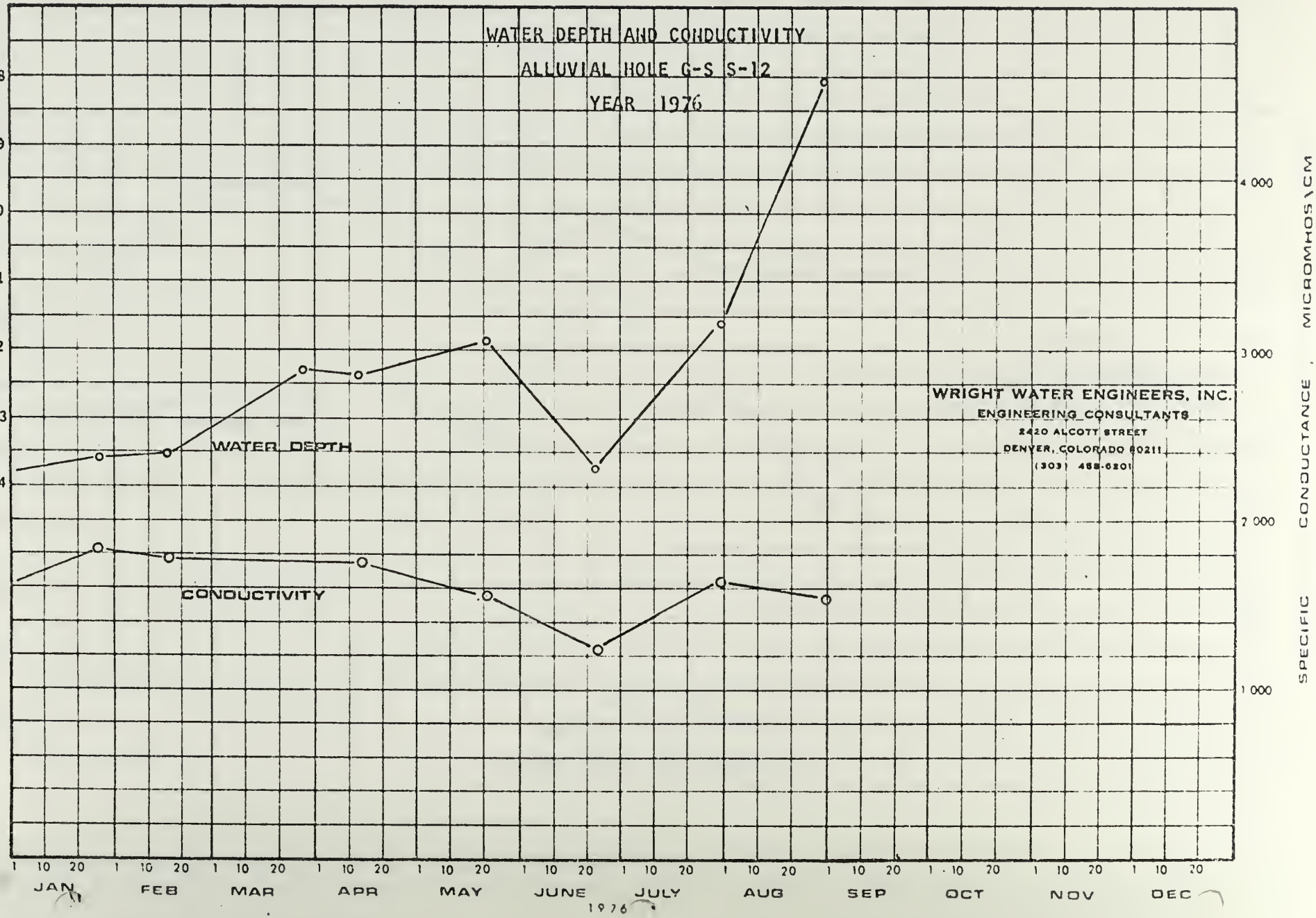
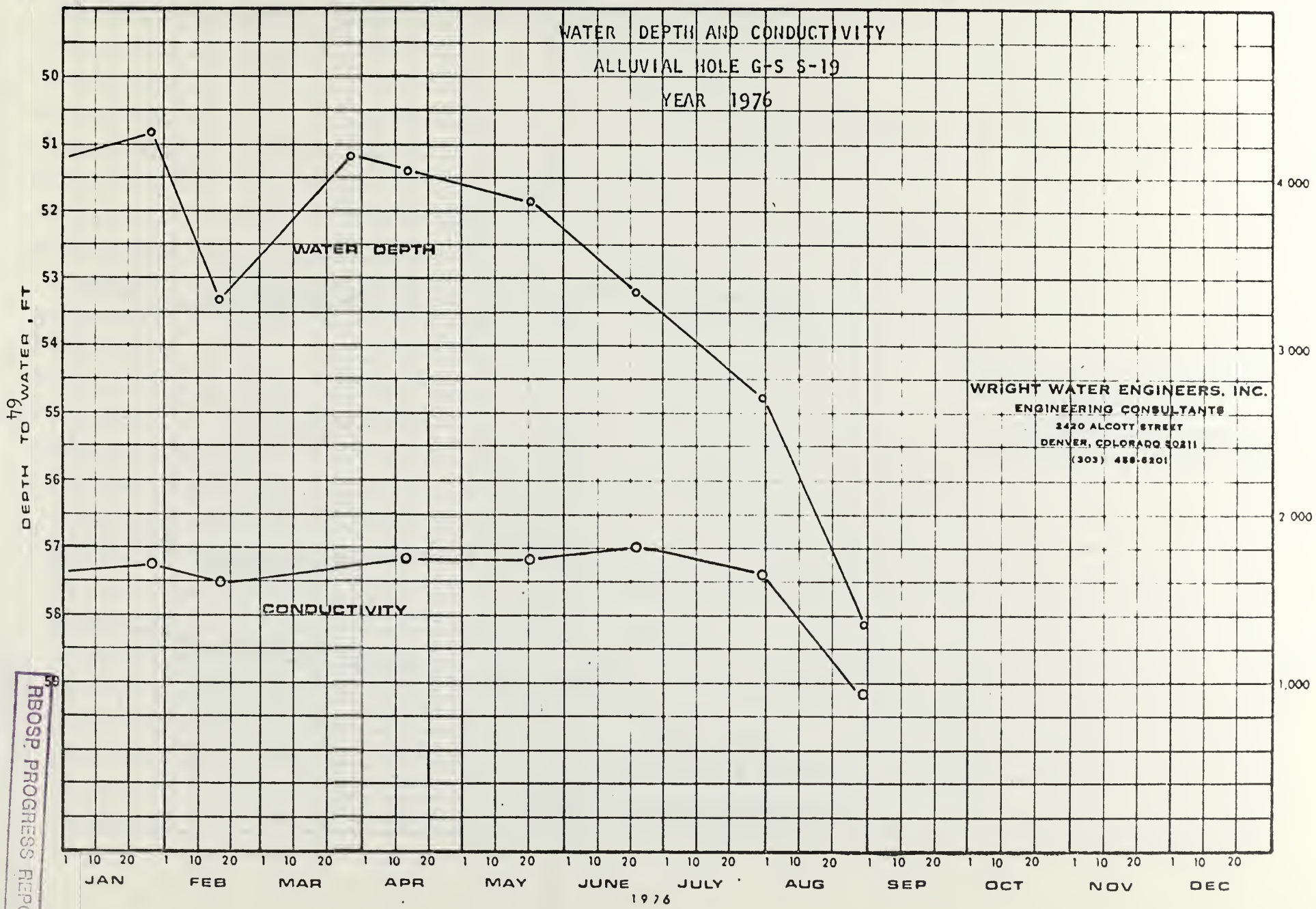

WATER DEPTH AND CONDUCTIVITY
ALLUVIAL HOLE G-S S-12
YEAR 1976
DEPTH TO WATER, FT
28
29
30
31
32
33
34
SPECIFIC CONDUCTANCE, MICROMHOS/CM
4 000
3 000
2 000
1 000
WATER DEPTH
CONDUCTIVITY
WRIGHT WATER ENGINEERS, INC.
ENGINEERING CONSULTANTS
2420 ALCOTT STREET
DENVER, COLORADO 80211
(303) 458-6201
1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20
JAN FEB MAR APR MAY JUNE JULY AUG SEP OCT NOV DEC
1976

Figure 1.2-35



RBOSP, PROGRESS REPORT

Figure 1.2-36

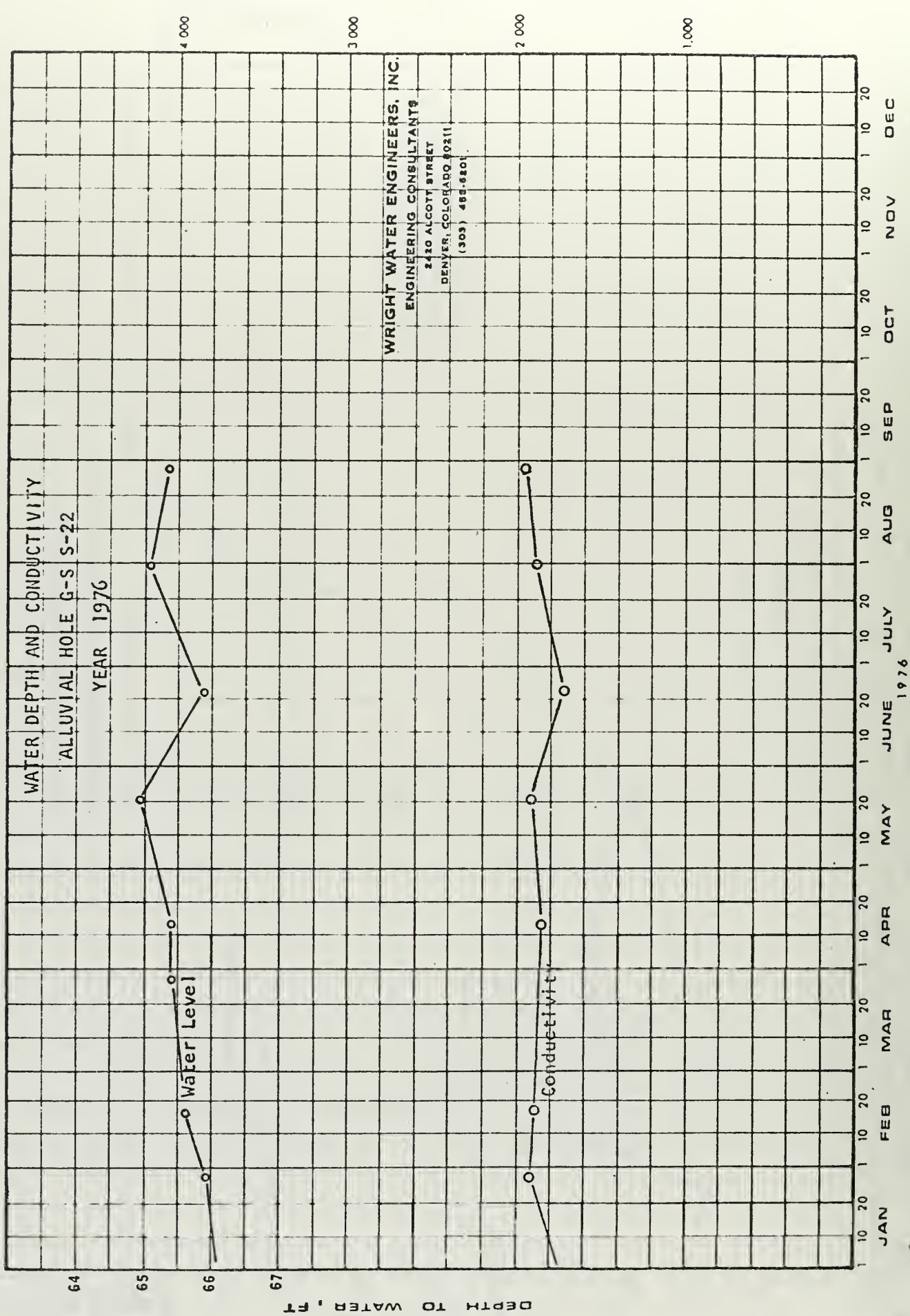

WATER DEPTH AND CONDUCTIVITY
ALLUVIAL HOLE G-S S-22
YEAR 1976
WRIGHT WATER ENGINEERS, INC.
ENGINEERING CONSULTANTS
2420 ALCOTT STREET
DENVER, COLORADO 80211
(303) 455-6201
Water Level
Conductivity
DEPTH TO WATER, FT
64
65
66
67
SPECIFIC CONDUCTANCE MICROMHOS/CM
4,000
3,000
2,000
1,000
JAN
FEB
MAR
APR
MAY
JUNE
JULY
AUG
SEP
OCT
NOV
DEC
1976

Figure 1.2-37

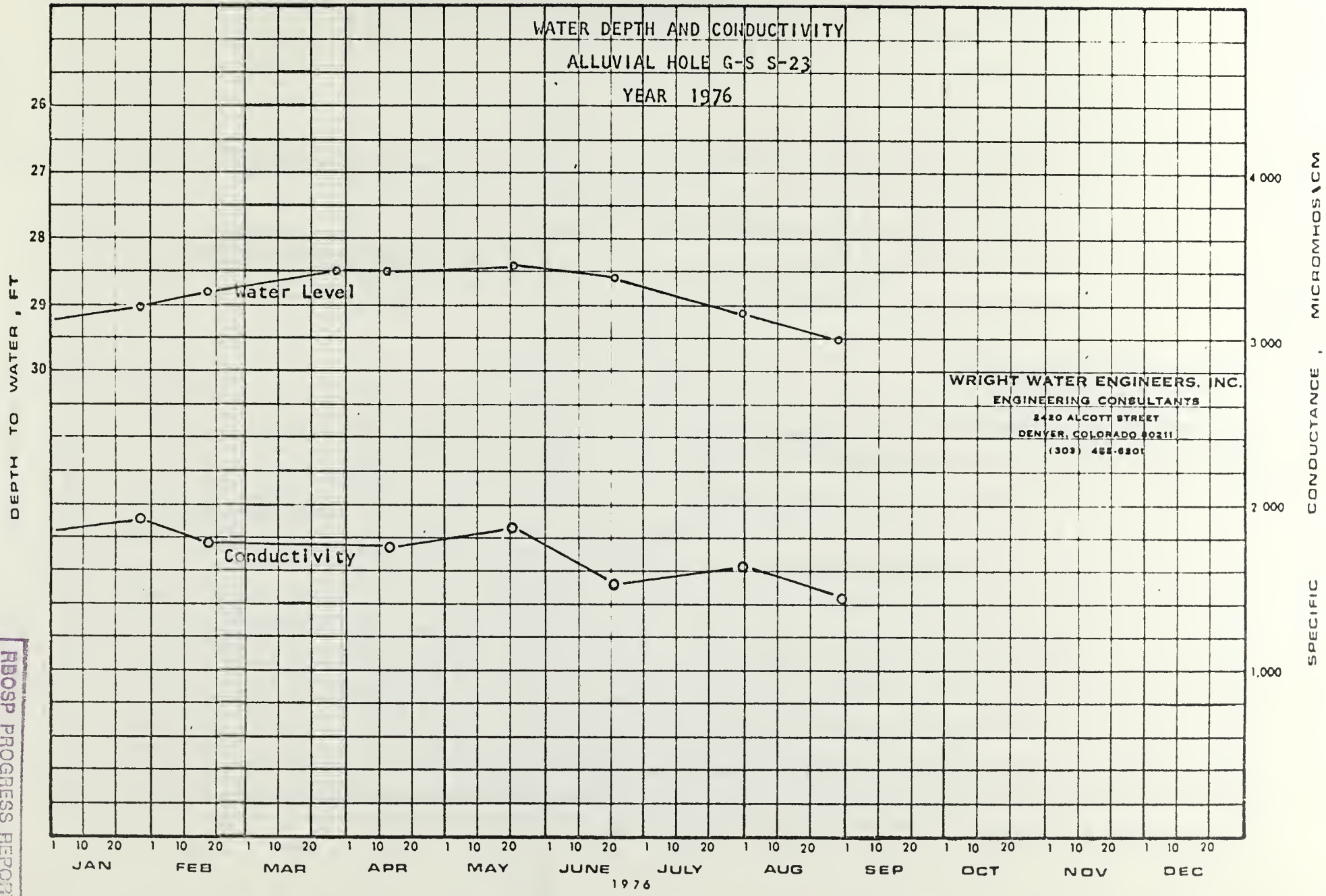


Figure 1.2-38

RBOSP PROGRESS REPORT

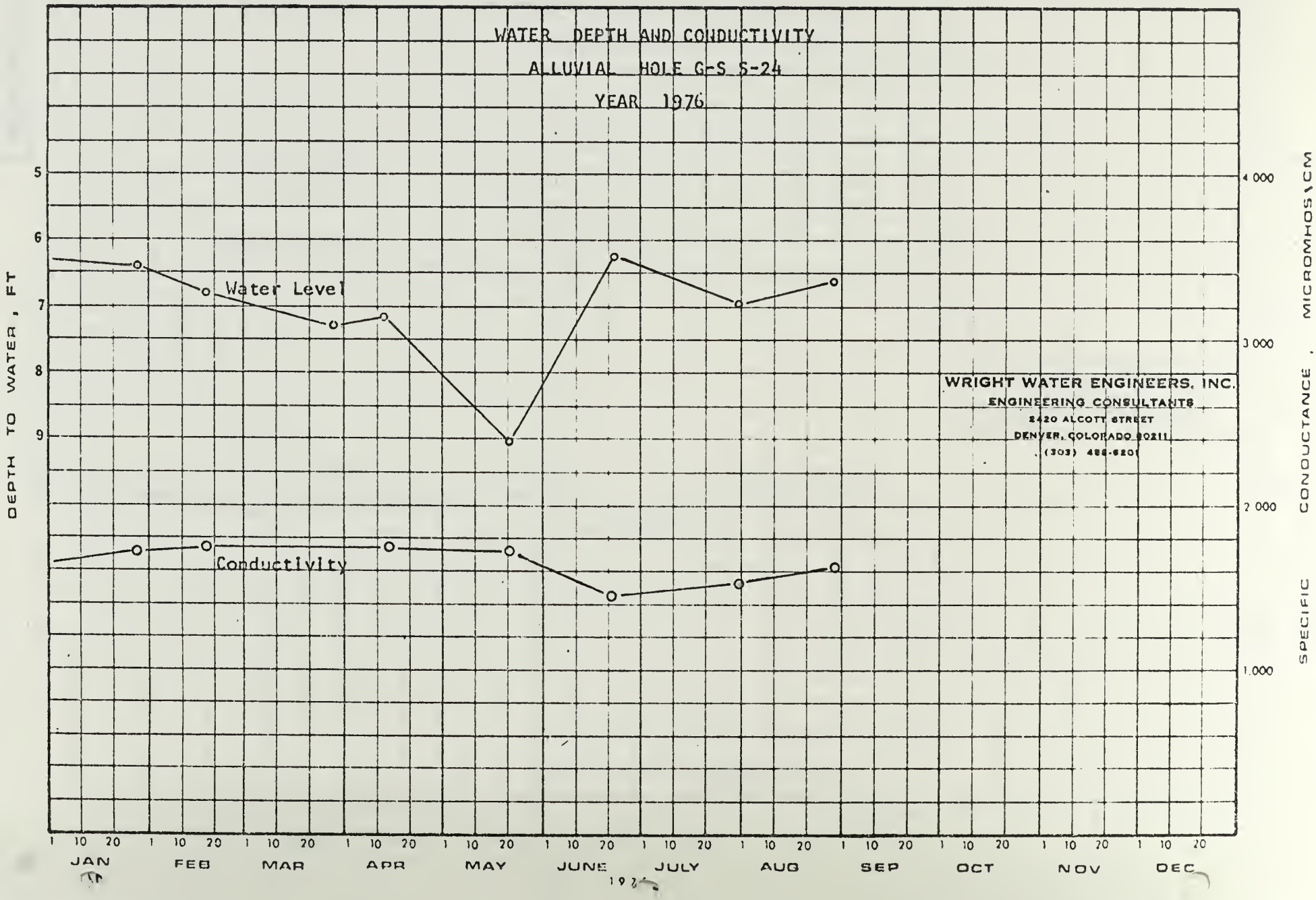

WATER DEPTH AND CONDUCTIVITY
ALLUVIAL HOLE G-S S-24
YEAR 1976
DEPTH TO WATER, FT
5
6
7
8
9
Water Level
Conductivity
SPECIFIC CONDUCTANCE, MICROMHOS/CM
4 000
3 000
2 000
1.000
WRIGHT WATER ENGINEERS, INC.
ENGINEERING CONSULTANTS
2420 ALCOTT STREET
DENVER, COLORADO 80211
(303) 455-6201
1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20
JAN FEB MAR APR MAY JUNE JULY AUG SEP OCT NOV DEC
1976

Figure 1.2-39

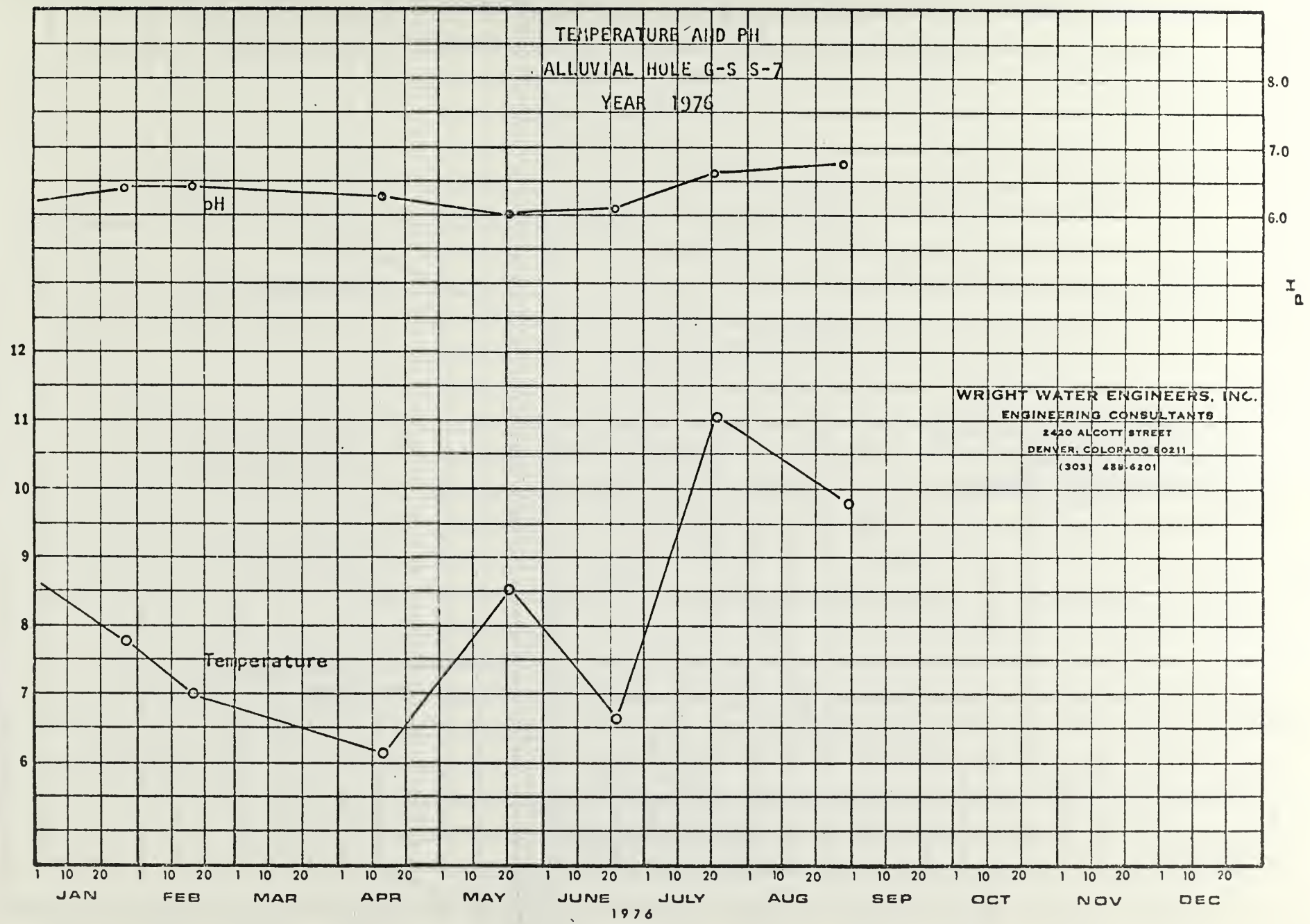


Figure 1.2-40

ABOSP PROGRESS REPORT

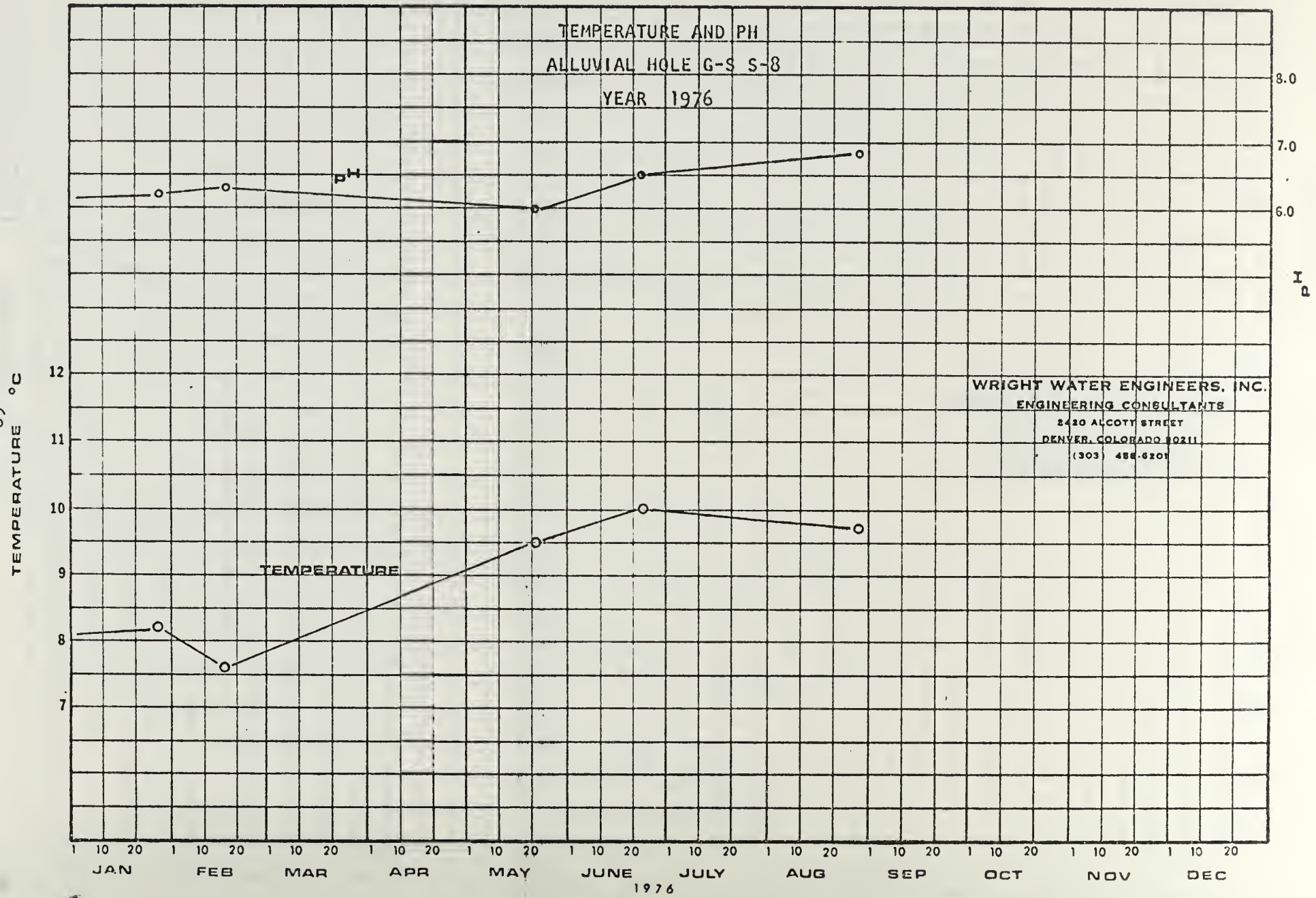

TEMPERATURE AND PH
ALLUVIAL HOLE G-S S-8
YEAR 1976
pH
TEMPERATURE
TEMPERATURE °C
12
11
10
9
8
7
8.0
7.0
6.0
pH
WRIGHT WATER ENGINEERS, INC.
ENGINEERING CONSULTANTS
2420 ALCOTT STREET
DENVER, COLORADO 80211
(303) 458-6201
1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20
JAN FEB MAR APR MAY JUNE JULY AUG SEP OCT NOV DEC
1976

Figure 1.2-41

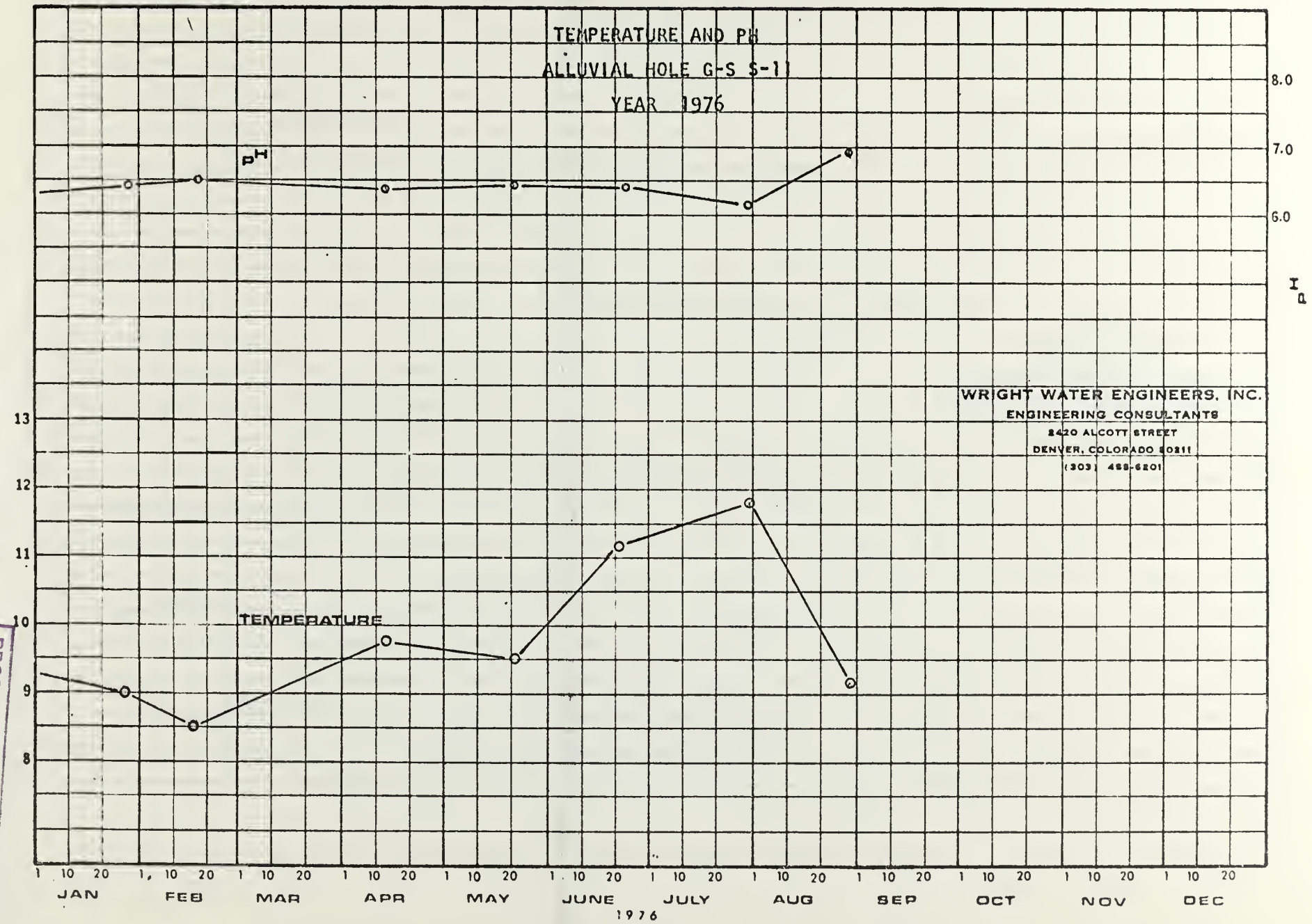


Figure 1.2-42

RBOSP PROGRESS REPORT

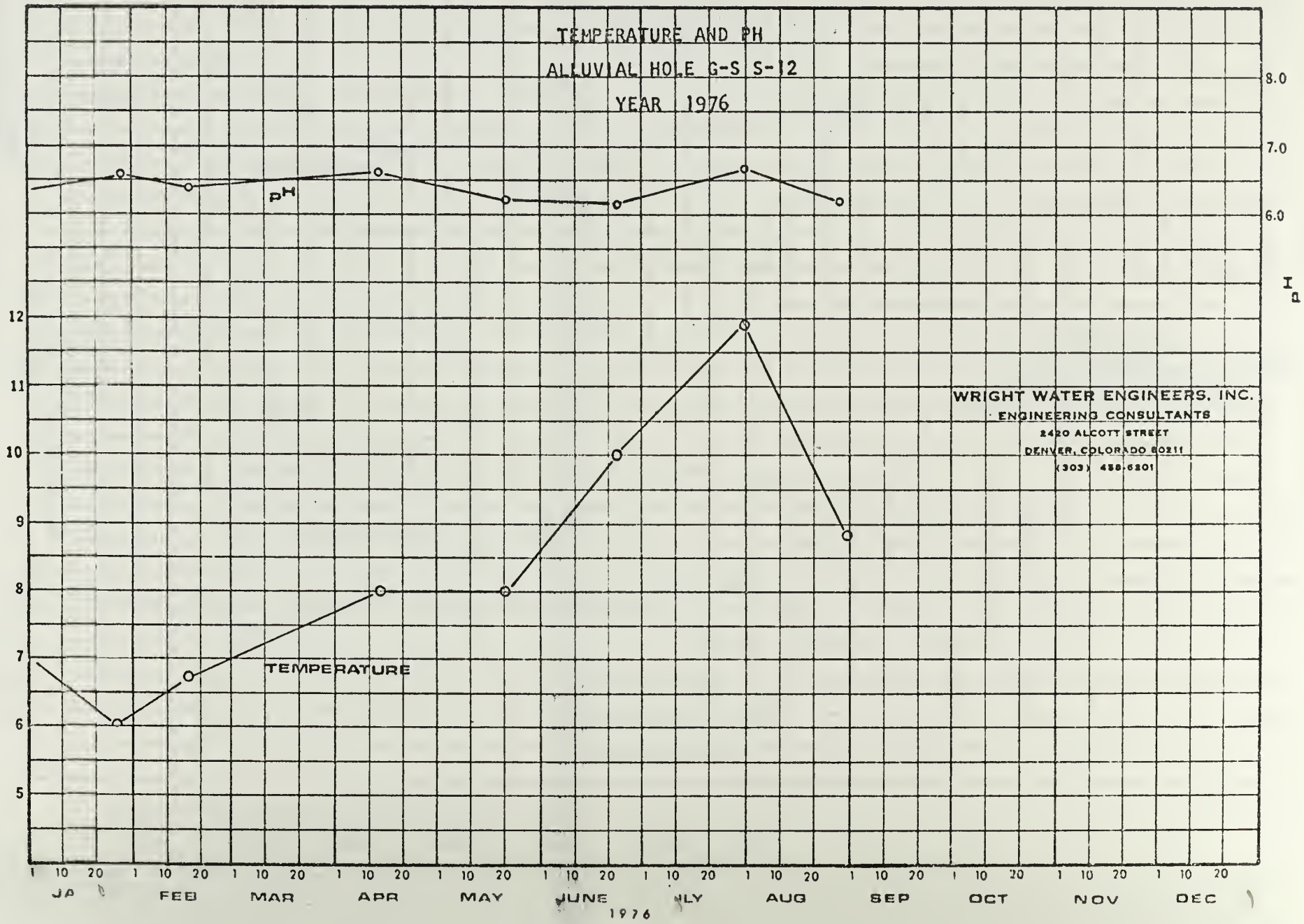

TEMPERATURE AND PH
ALLUVIAL HOLE G-S S-12
YEAR 1976
pH
TEMPERATURE
8.0
7.0
6.0
12
11
10
9
8
7
6
5
°C TEMPERATURE
WRIGHT WATER ENGINEERS, INC.
ENGINEERING CONSULTANTS
2420 ALCOTT STREET
DENVER, COLORADO 80211
(303) 458-6301
1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20
JA FEB MAR APR MAY JUNE LY AUG SEP OCT NOV DEC
1976

Figure 1.2-43

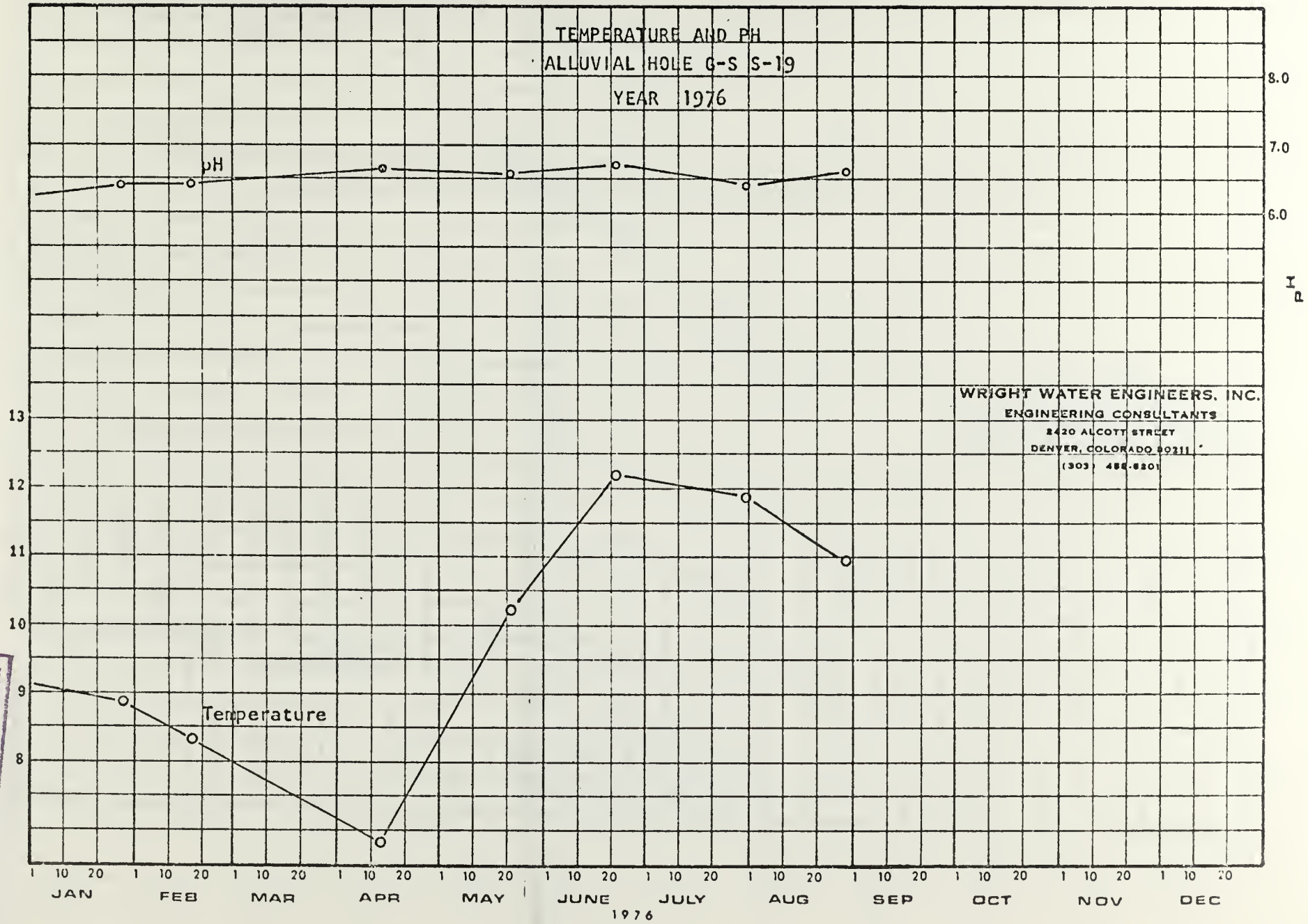
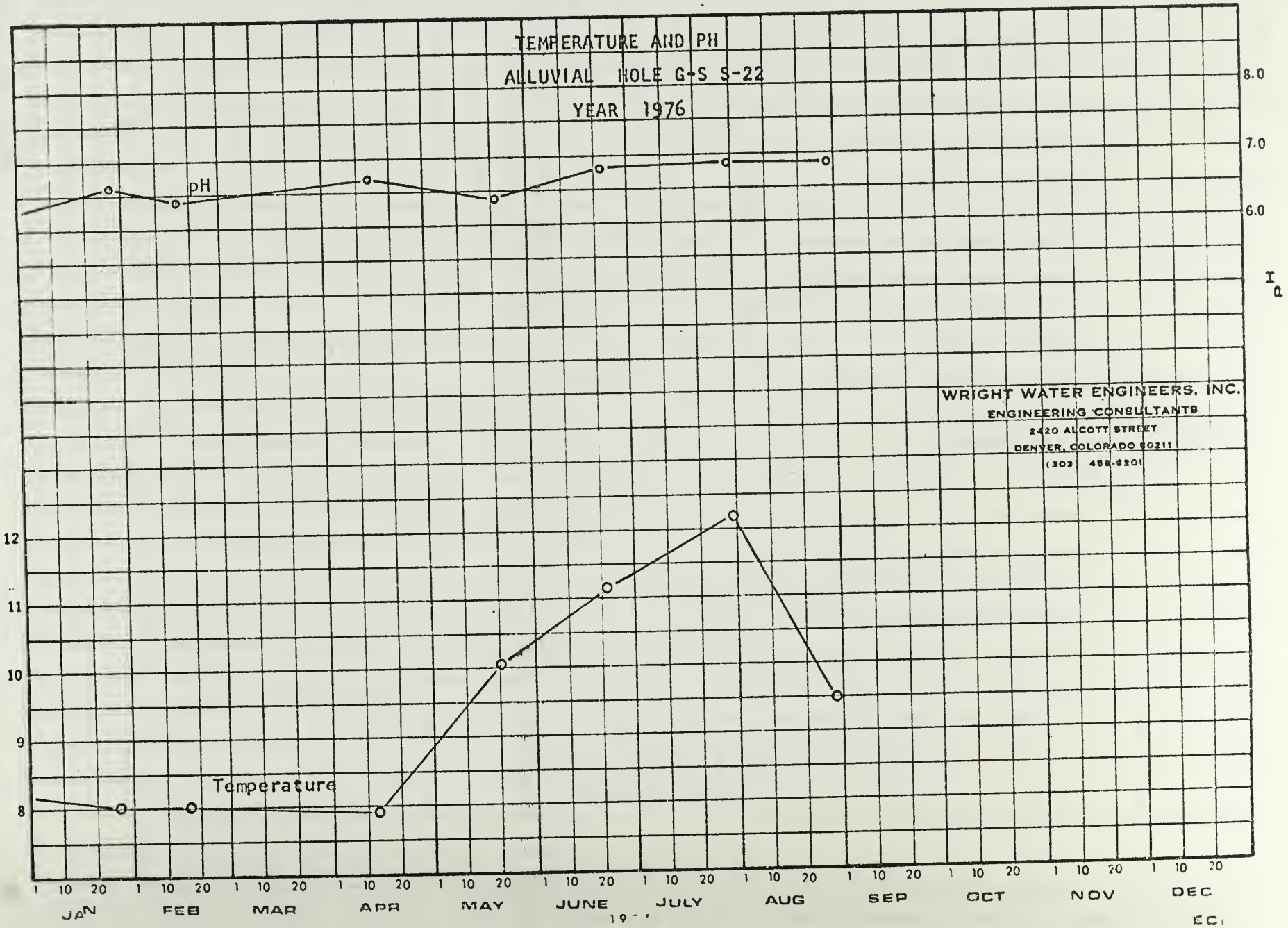


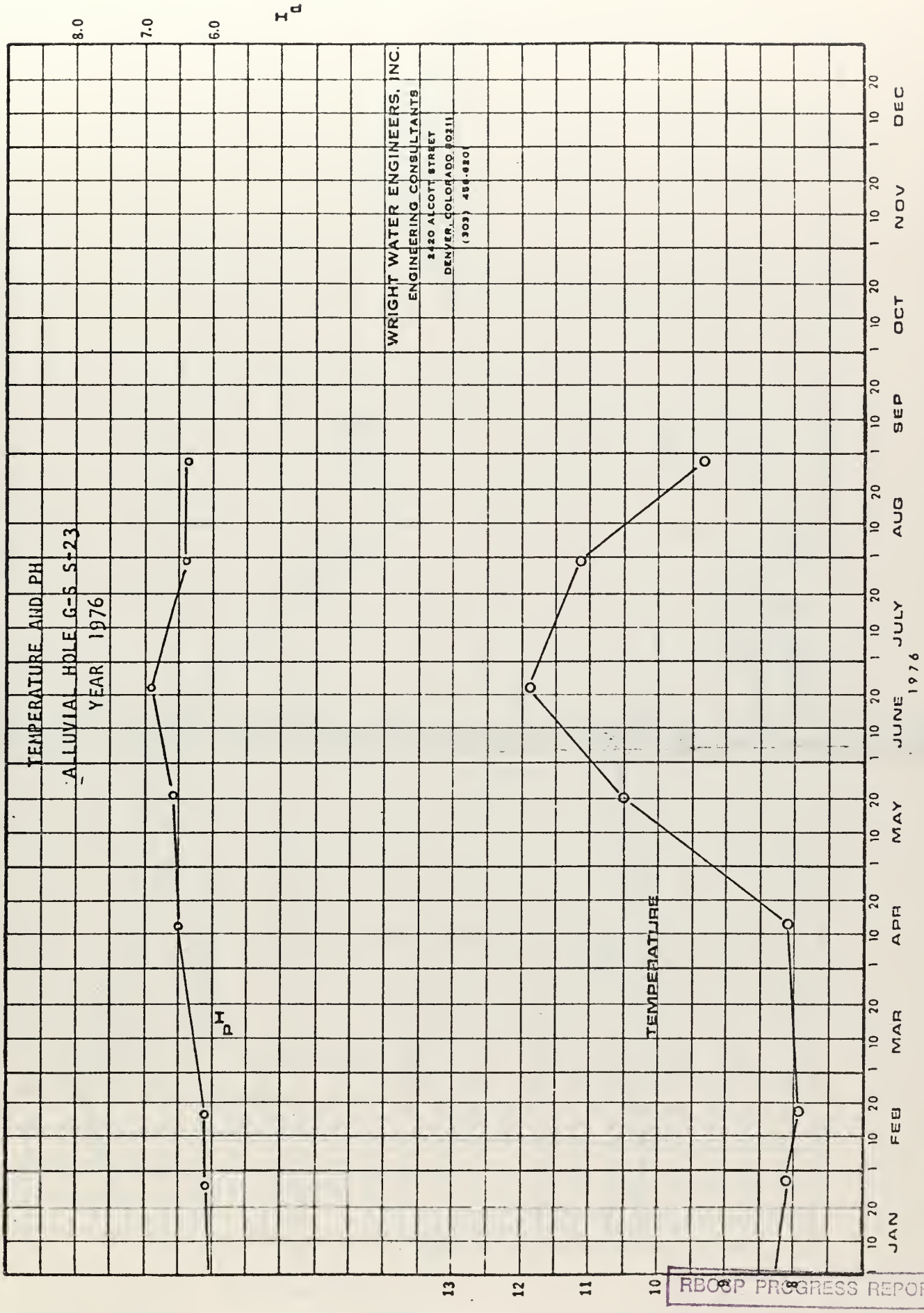
Figure 1.2-44

RBOSP PROGRESS REPORT



TEMPERATURE °C

Figure 1.2-45



RBOCP PROGRESS REPORT

Figure 1.2-46

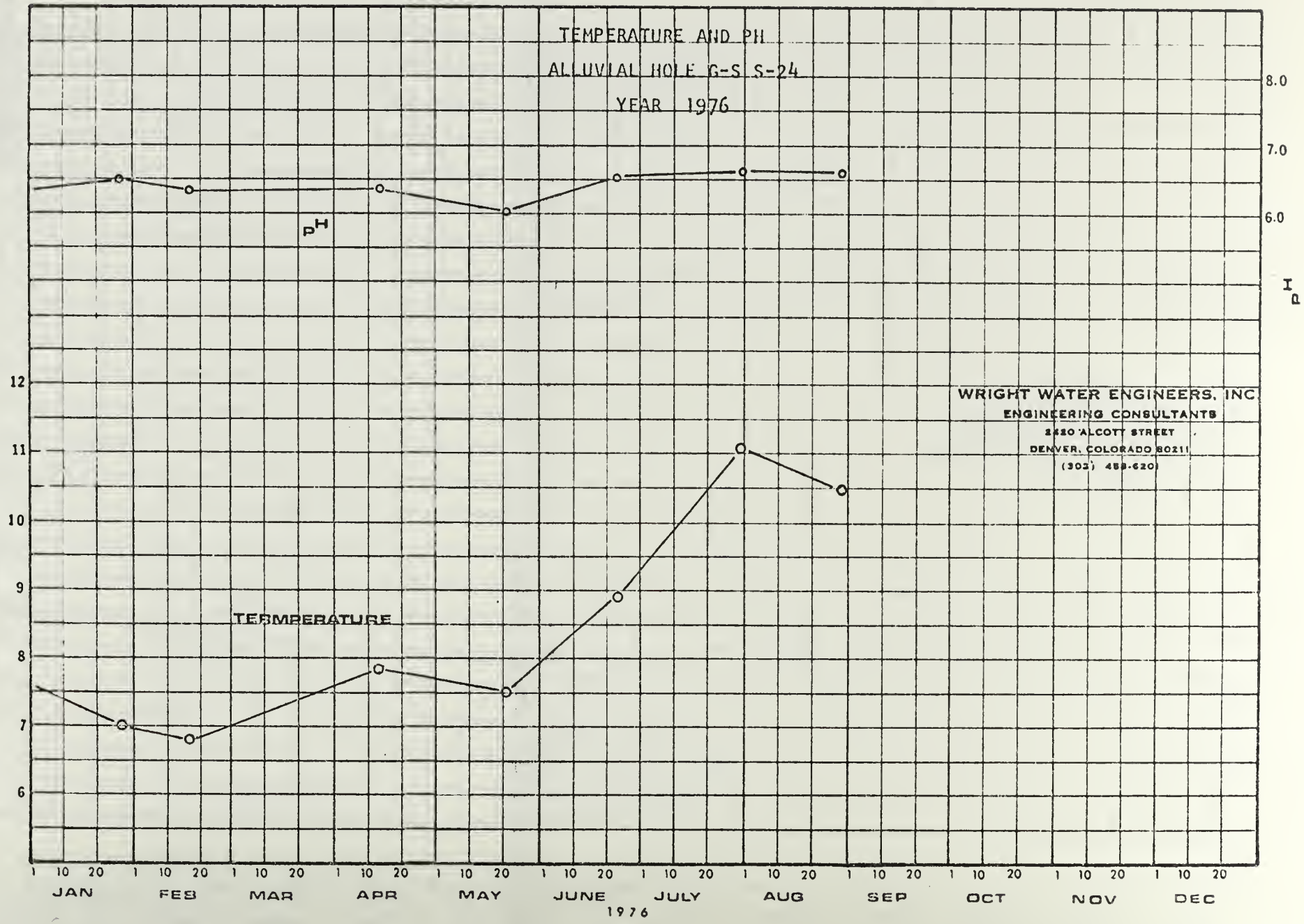

TEMPERATURE AND PH
ALLUVIAL HOLE G-S S-24
YEAR 1976
pH
TEMPERATURE
TEMPERATURE °C
pH
8.0
7.0
6.0
12
11
10
9
8
7
6
1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20 1 10 20
JAN FEB MAR APR MAY JUNE JULY AUG SEP OCT NOV DEC
1976
WRIGHT WATER ENGINEERS, INC.
ENGINEERING CONSULTANTS
2420 ALCOTT STREET
DENVER, COLORADO 80211
(303) 458-620

Figure 1.2-47

1.2.4 DEEP AQUIFER DRILLING PROGRAM

The Deep Aquifer Drilling Program has been previously described in RBOSP Progress Reports 2 and 4, Hydrologic Program. A summary of the drilling program is reported in RBOSP Progress Report 5.

1.2.5 DEEP AQUIFER COMPLETION PROGRAM

The Deep Aquifer Completion Program is reported in RBOSP Progress Reports 2 and 4, Hydrologic Program Interpretive Text.

1.2.6 UPPER AND LOWER AQUIFER PUMPING TESTS

Pumping Test Data can be found in RBOSP Progress Report 3, Interpretive and Raw Data Texts. Detailed interpretation is contained in RBOSP Progress Report 4, Interpretive Text, with basic data bound in the associated Raw Data Volume.

RBOSP PROGRESS REPORT

1.2.7 DEEP AQUIFER MONITORING

The deep aquifer monitoring program started in December 1974. The program includes the measurement of water levels and gathering of water quality data. Water samples were collected monthly from March through August 1975. Thereafter, water samples were collected semi-annually. The latest samples to be analyzed were collected in March 1976 with the exception of G-S 10 and G-S M-4. The locations of the monitor holes are shown on Figure 1.2-48.

In accordance with the RBOSP Approved Exploratory Plan, the present monitoring program consists of measuring static water levels on a monthly basis. Water level data from October 1975 through August 1976 are included in the Raw Data Volume of this report.

It was reported in Progress Report 7 that samples were collected from the holes in March 1976 with the exception of three holes. Samples from G-S 8, G-S 10 and G-S M-4 were not collected at that time due to equipment breakdown or problems associated with those specific holes. Since that time, measures have been taken to correct the problems. Equipment problems were corrected which permitted sampling of G-S 10.

An investigation of G-S 8 revealed that the hole was plugged approximately 630 feet below the ground. G-S 8 is a single completion hole monitoring the lower aquifer. It is not certain when the plugging occurred. Data from samples collected early in the monitoring indicate the plug occurred after hole completion and before the monitoring program began. Data collected on G-S 8 during the monitoring program do not represent the aquifer water quality. A request has been submitted to the AOSS to abandon G-S 8 as a monitoring hole.

A work over rig was brought in to remove a bailer hung up in the tubing in the lower aquifer of G-S M-4 . The bailer was wedged on a deposit build-up on the walls of the tubing. The tubing was cleaned and rerun into the hole.

RBOSP PROGRESS REPORT

Samples from G-S M-4 and from G-S 10 were collected in August 1976. Analysis results can be found in the Raw Data Volume. Tables 1.2-16 and 1.2-17 contain a summary of the wet chemical and spectrographic analyses.

Along the north side of the tract upper aquifer, water levels were stable with the exception of TO-2, Water levels increased in TO-2 on the average of 0.7 feet per month over a three month reporting period. Water levels around CE-709 decreased by 3 feet over a three month period. Holes close to CE-709 had decreases that ranged from 0.3 to 0.4 feet average per month over this same period. The southern portion of the tract had increasing water levels. The central portion of Tract C-a showed the highest increasing levels for this reporting period. A water level rise over 2 feet for a three month period was recorded at AM-2A. (Table 1.2-18, and Figures 1.2-49 and 1.2-51).

The lower aquifer piezometric surface has decreased from May 21 through August 27. Holes across the tract have had decreases in water levels of from 1 to 2 feet for this period. One exception to the decreasing piezometric surface is in the area of G-S S-13 where an increase of over 1 foot has occurred during the three month period (Table 1.2-19, and Figures 1.2-50 and 1.2-52).

TABLE 1.2-15

DATA COLLECTION SCHEDULE FOR DEEP AQUIFER

Monthly

Water Levels Measure

Semi-Annually

Water Sample Analyzed For:

Alkalinity
Aluminium
Ammonia
Arsenic
Ba
Be
Bi
Bicarbonate
Br
B
Dissolved Organic Carbon
Calcium
Carbonate
Cd
Chloride
Cr
Cu
Cyanide

COD
Dissolved Solids
Ge
Ga
Fluoride
Iron
Lead
Li
Mg
Mn
Hg
Mo
Ni
Nitrate plus Nitrite
Phenols
Dissolved Phosphate
Pottassium
Se
Silica

Na
Sr
Sulfate
Sulfide
Ti
V
Zr
Zn
Color
Odor
pH
Temperature
Conductance

Radioactivity
Gross Alpha
4 pci/l
226 Ra
Gross Beta
100 pci/l
Sr^{90}
Ce^{137}

RBOSP PROGRESS REPORT

TABLE 1.2-16

SUMMARY OF WET CHEMICAL ANALYSIS MONITORING PROGRAM
UPPER AND LOWER AQUIFER
TRACT C-a AND VICINITY
Values in mg/l
MARCH 1975 to AUGUST 1976

	Lower Aquifer					Upper Aquifer				
Item	Low	High	Average	# Items Averaged	Std. Dev.	Low	High	Average	# Items Averaged	Std. Dev.
Alkalinity	- 0.100	1048.000	896.067	202	1071.363	- 0.100	2390.000	513.837	184	462.706
Aluminum	- 0.010	1.600	0.121	47	0.272	- 0.010	2.200	0.176	46	0.387
Ammonia	- 0.010	9.600	0.653	172	0.947	- 0.100	10.600	0.618	187	1.047
Arsenic	- 0.010	0.050	0.001	192	0.005	- 0.010	0.200	0.003	198	0.018
Barium	- 0.100	1.000	0.006	168	0.007	- 0.100	- 1.000		137	
Bicarbonate	- 0.100	11800.000	1042.439	207	1204.645	- 0.100	2760.000	604.606	226	485.724
Boron	- 0.010	25.000	1.716	190	3.198	- 0.010	4.800	0.672	169	0.974
Bromide	- 0.020	0.400	0.030	22	0.089	- 0.020	0.500	0.083	21	0.142
Chemical Oxygen Demand	- 1.300	92.000	28.505	22	23.209	- 0.900	400.000	82.671	21	100.460
Cadmium	- 0.001	0.030	0.002	193	0.005	- 0.001	0.100	0.002	182	0.009
Calcium	0.800	515.000	35.885	207	69.743	- 0.010	780.000	63.654	226	68.821
Carbonate	- 0.010	3160.000	94.680	207	248.912	- 0.010	1190.000	33.395	225	93.509
Chloride	- 1.000	205.000	33.921	207	38.773	- 1.000	240.000	23.774	226	31.371
Chromium	- 0.010	- 0.050	0.002	188	0.007	- 0.100	0.500	0.007	183	0.041
Conductivity (umhos/cm)	760.000	15800.000	2191.531	205	1873.355	675.000	6200.000	1527.262	225	768.910
Copper	- 0.010	0.300	0.016	193	0.046	- 0.010	0.800	0.024	182	0.096
Cyanide	- 0.010	0.800	0.005	187	0.059	- 0.010	0.100	0.001	157	0.010
Dissolved Oxygen Demand	- 1.000	73.000	10.612	144	8.088	- 1.000	50.000	9.861	135	7.228
Dissloved Solids	430.000	12200.000	1507.597	206	1235.199	425.000	3140.000	1139.318	226	504.789
Fluoride	0.030	120.000	13.682	208	19.727	0.060	80.000	3.906	226	10.120
Gross Alpha (pcl/l)	0.100	86.000	6.359	135	9.835	0.200	29.000	5.081	117	4.881
Gross Beta (pcl/l)	3.000	830.000	53.100	50	123.148	2.000	73.000	21.613	31	17.890
Hardness (total)	20.000	1260.000	245.443	185	213.795	16.000	1870.000	379.458	205	237.825
Iron	- 0.050	33.000	2.842	207	4.402	0.005	18.000	3.803	210	4.614
Lead	0.002	26.000	0.613	193	2.396	0.002	3.800	0.339	182	0.531
Lithium	- 0.100	0.200	0.050	22	0.080	- 0.100	- 0.500	0.009	23	0.029
Magnesium	- 1.000	140.000	36.349	207	31.092	- 0.100	200.000	53.279	225	33.300
Manganese	- 0.010	0.800	0.073	201	0.106	- 0.100	1.000	0.140	198	0.172
Mercury	- 0.001	- 0.010	0.000	189	0.000	- 0.001	0.045	0.000	185	0.003
Nickel	- 0.001	0.100	0.023	166	0.019	- 0.001	0.200	0.027	137	0.028
Nitrate	- 0.010	55.000	0.696	207	3.960	- 0.010	7.000	0.523	226	0.940
Nitrate -N	- 0.020	- 0.100		21		- 0.020	- 0.020		21	
pH	6.000	12.200	7.373	205	0.806	6.000	10.200	7.044	226	0.656
Phenols	- 0.001	1.000	0.045	22	0.213	- 0.001	- 0.001		21	
Phosphate	- 0.010	2.400	0.048	194	0.207	- 0.010	9.200	0.163	185	0.895
Potassium	- 1.000	84.000	6.515	27	16.905	- 0.100	93.000	8.835	62	20.432
Selenium	- 0.001	- 0.100	0.000	193	0.000	- 0.001	- 0.100		199	
Silicon Dioxide	- 0.100	60.000	11.405	207	9.966	- 0.100	58.000	25.610	226	14.269
Silver	- 0.001	0.110	0.003	166	0.015	- 0.001	0.100	0.007	137	0.019
Sodium	86.000	5290.000	512.807	207	542.042	32.000	1170.000	271.641	226	211.380
Sulfate	3.500	740.000	210.717	207	175.211	- 4.000	900.000	336.580	226	170.267
Sulfide	- 0.010	2.400	0.664	25	0.703	0.030	40.000	2.828	40	7.280
Zinc	- 0.001	68.000	1.233	193	6.031	- 0.010	15.000	0.691	173	1.472

(-) Less than detectable limit given.

TABLE 1.2-17

SUMMARY OF SPECTROGRAPHIC ANALYSIS MONITORING PROGRAM

UPPER AND LOWER AQUIFER
TRACT C-a and VICINITY
Values in mg/l

MARCH 1975 to AUGUST 1976

	Lower Aquifer					Upper Aquifer				
Item	Low	High	Average	# Items Avg'd.	Std. Dev.	Low	High	Average	# Items Avg'd.	Std. Dev.
Aluminum	0.001	5.000	0.125	196	0.390	0.001	1.000	0.141	218	0.204
Antimony	0.200	0.200	0.200	1	0.000	---	---	---	0	---
Arsenic	---	---	---	0	---	---	---	---	0	---
Barium	0.001	0.100	0.016	28	0.032	0.001	0.050	0.006	26	0.010
Beryllium	---	---	---	0	---	---	---	---	0	---
Bismuth	---	---	---	0	---	---	---	---	0	---
Boron	0.050	Major	0.437	195	0.622	0.020	5.000	.355	218	0.412
Cadmium	Major	Major		0		Major	Major		0	
Calcium	0.100	Major	6.836	36	4.341	1.000	Major	7.158	19	3.976
Cerium	---	---	---	0	---	---	---	---	0	---
Cesium	---	---	---	0	---	---	---	---	0	---
Chromium	0.001	0.010	0.005	2	0.006	---	0.050	0.010	13	0.013
Cobalt	---	---	---	0	---	---	---	---	0	---
Columbium	---	---	---	0	---	---	---	---	0	---
Copper	0.001	0.100	0.007	172	0.010	---	0.050	0.008	179	0.010
Dysprosium	---	---	---	0	---	---	---	---	0	---
Erbium	---	---	---	0	---	---	---	---	0	---
Europium	---	---	---	0	---	---	---	---	0	---
Gadolinium	---	---	---	0	---	---	---	---	0	---
Gallium	---	---	---	0	---	---	---	---	0	---
Germanium	---	---	---	0	---	---	---	---	0	---
Gold	---	---	---	0	---	---	---	---	0	---
Hafnium	---	---	---	0	---	---	---	---	0	---
Holmium	---	---	---	0	---	---	---	---	0	---
Indium	---	---	---	0	---	---	---	---	0	---
Iridium	---	---	---	0	---	---	---	---	0	---
Iron	0.005	5.000	0.112	196	0.510	0.010	1.000	0.102	215	0.177
Lanthanum	---	---	---	0	---	---	---	---	0	---
Lead	---	0.500	0.029	39	0.084	0.001	0.500	0.340	52	0.080
Lithium	0.001	5.000	0.049	144	0.416	0.001	0.500	0.026	144	0.058
Lutetium	0.100	0.010	0.010	1	0.000	0.001	0.010	0.005	2	0.006
Magnesium	0.100	Major	3.967	36	3.098	0.100	Major	6.277	22	4.054
Manganese	0.001	0.200	0.016	156	0.031	0.001	1.000	0.028	162	0.084
Mercury	---	---	---	0	---	---	---	---	0	---
Molybdenum	0.001	0.100	0.008	97	0.015	0.001	0.500	0.015	111	0.067
Neodymium	0.090	0.090	0.090	1	0.000	---	---	---	0	---
Nickel	0.001	0.001	0.001	1	0.000	0.001	0.010	0.005	5	0.005
Osmium	---	---	---	0	---	---	---	---	0	---
Palladium	---	---	---	0	---	---	---	---	0	---
Platinum	---	---	---	0	---	---	---	---	0	---
Potassium	0.010	Major	1.207	187	1.496	0.010	Major	1.016	199	1.446
Praseodymiun	---	---	---	0	---	---	---	---	0	---
Radium (pci/l)	0.090	2.100	0.417	43	0.386	0.100	0.800	0.194	31	0.156
Rhenium	---	---	---	0	---	---	---	---	0	---
Rhodium	---	---	---	0	---	---	---	---	0	---
Rubidium	---	---	---	0	---	---	---	---	0	---
Ruthenium	---	---	---	0	---	---	---	---	0	---
Samarium	---	---	---	0	---	---	---	---	0	---
Scandium	---	---	---	0	---	---	---	---	0	---
Selenium	---	---	---	0	---	---	---	---	0	---
Silicon	0.500	Major	5.533	195	3.841		50.000	9.234	218	8.435
Silver	---	0.001	0.001	14	0.000	---	0.001		19	0.000
Sodium	0.100	Major	7.490	92	2.716	2.000	Major	7.385	104	2.897
Strontium	0.001	Major	0.113	178	0.124	0.001	1.000	.131	183	0.121
Tantalum	---	---	---	0	---	---	---	---	0	---
Terbium	---	---	---	0	---	---	---	---	0	---
Thallium	---	---	---	0	---	---	---	---	0	---
Thorium	---	---	---	0	---	---	---	---	0	---
Thulium	---	---	---	0	---	---	---	---	0	---
Tin	---	0.001	0.001	2	0.001	0.001	0.001	0.001	1	0.000
Titanium	0.001	0.050	0.004	80	0.006	0.001	0.150	0.010	116	0.023
Tungsten	---	---	---	0	---	---	---	---	0	---
Uranium	1.500	1.500		1	0.000	---	---	---	0	---
Vanadium	---	---	---	0	---	0.001	0.100	0.027	16	0.027
Ytterbium	---	---	---	0	---	---	---	---	0	---
Yttrium	---	---	---	0	---	---	---	---	0	---
Zinc	0.001	0.500	0.032	42	0.110	0.001	0.500	0.026	51	0.077
Zirconium	---	---	---	0	---	---	---	---	0	---

--- Less than minimum detectable amount
Major - Concentration too large to quantify (see wet chemical analysis)

RBOSP PROGRESS REPORT

TABLE 1.1-18
UPPER AQUIFER

WATER LEVEL

October, 1975 thru August, 1976

Below Ground Surface (ft.)

	9 Oct.	20 Nov.	12 Dec.	28 Jan.	17 Feb.	29 Mar.	14 April	21 May	23 June	30 July	28 Aug.	Sept.
AM 2A	389.45	387.63	386.41	385.17	384.34	383.19	382.50	381.85	--	379.40	379.09	
AM 3	33.57	33.45	33.11	33.23	33.04	32.79	31.60	30.04	28.72	29.17	30.06	
CE 702	52.40	52.30	52.39	52.64	52.65	52.80	52.66	53.02	54.50	53.38	53.70	
CE 707	259.79	258.76	258.11	257.25	256.64	242.22	250.32	250.60	250.97	252.03	252.00	
CE 708	48.87	50.60	49.86	51.78	51.80	51.30	47.72	44.81	46.43	44.30	46.91	
CE 709	39.84	37.02	36.14	35.90	35.69	35.50	34.88	35.00	34.48	33.90	38.84	
G-S 1	244.68	245.27	245.59	246.19	246.53	246.28	244.53	243.26	242.57	241.92	242.10	
G-S 2-3	103.49	102.75	102.35	102.25	101.97	100.87	100.28	99.86	99.26	99.06	99.26	
G-S 4-5	75.05	74.77	74.29	74.36	74.01	73.48	72.98	72.86	73.33	72.42	72.47	
G-S 6	55.62	55.54	55.42	55.50	55.45	55.27	54.95	55.22	55.10	55.20	55.61	
G-S 9	311.43	312.69	316.33	319.29	319.95	321.42	320.94	317.03	316.45	317.23	319.63	
G-S 10	340.35	340.11	--	339.75	339.60	339.36	339.14	339.48	339.50	339.37	339.62	
G-S 11	460.35	459.67	459.00	458.76	458.40	457.72	456.95	456.42	455.46	454.99	455.35	
G-S 12	388.30	387.60	386.97	386.55	386.24	385.41	384.67	382.79	382.83	381.86	382.91	
G-S 13	382.62	382.19	381.68	381.72	381.45	381.04	380.97	380.41	380.11	380.12	378.47	
G-S 15	274.73			273.56	273.41	272.99	272.83	272.69	274.76	272.58	272.49	
G-S M-1	620.64	621.13	--	619.10	618.77	618.71	625.57	619.31	619.40	619.95	620.26	
G-S M-2	231.22	230.68	229.75	228.94	228.23	225.76	225.39	225.36	224.01	221.28	223.13	
G-S M-3	21.59	21.96	20.32	19.16	19.21	18.57	17.50	17.72	18.75	18.58	18.46	
G-S M-4	491.80	491.95	491.56	492.04	492.08	492.25	--	492.77	492.94	493.26	491.60	
G-S M-5	235.73	235.81	235.24	235.70	235.64	235.51	235.38	235.75	235.80	235.94	235.90	
TO-1	21.80	20.65	20.41	20.95	20.83	20.53	20.13	22.35	22.46	22.30	22.73	
TO-2	113.36	113.36	122.96	112.93	112.73	112.57	112.18	113.81	113.70	111.32	111.44	

-- Water levels not collected due to poor weather conditions making access to hole difficult or because problems with monitoring hole and equipment.

TABLE 1.2-19

LOWER AQUIFER

WATER LEVEL

October, 1975 thru August, 1976

Below Ground Surface (ft)

	9 Oct.	20 Nov.	12 Dec.	28 Jan.	17 Feb.	29 Mar.	14 April	21 May	23 June	30 July	28 Aug.	Sept.
AM 2A	636.67	637.70	638.08	639.71	640.11	641.15	641.63	643.56	--	645.47	645.51	
AM 3	310.40	311.27	311.56	313.34	313.73	314.65	315.31	316.90	317.67	318.80	319.50	
CE 702	40.48	41.21	41.25	43.00	43.41	44.21	44.64	45.81	48.50	47.30	47.97	
CE 707	567.51	568.70	569.21	570.67	571.04	572.19	572.53	--	573.00	573.81	574.78	
CE 708	297.88	298.97	299.27	300.84	301.22	302.97	303.06	303.83	304.59	306.74	307.52	
CE 709	154.31	155.55	154.92	157.62	158.63	158.87	159.60	160.82	160.61	162.63	163.23	
G-S 1	602.65	602.43	602.13	602.13	601.70	601.64	601.58	601.91	601.76	601.67	602.36	
G-S 2-3	254.92	255.98	256.61	258.03	258.32	259.43	259.81	261.05	261.79	262.79	263.66	
G-S 4-5	98.31	99.55	100.09	100.57	101.95	102.89	103.40	104.46	105.12	--	105.74	
G-S 6	44.06	45.88	46.26	47.72	48.12	49.01	49.45	50.65	51.29	52.41	52.89	
G-S 9	513.25	514.31	514.68	516.10	516.22	517.19	517.96	517.56	518.14	518.51	519.65	
G-S 10	389.69	380.81	--	392.76	393.06	394.01	394.57	396.13	396.89	398.04	398.71	
G-S 11	721.76	723.02	723.36	725.51	725.53	726.65	727.18	727.63	728.46	729.60	730.46	
G-S 12	649.79	649.76	650.08	651.97	652.30	653.36	653.92	655.54	656.45	659.06	656.86	
G-S 13	573.82	574.98	575.36	577.08	577.34	578.39	578.96	580.40	581.58	582.80	579.40	
G-S 15	363.99	365.27	365.64	367.28	367.64	368.71	369.24	370.79	371.79	372.69	373.41	
G-S M-1	822.20	824.61	--	824.87	825.18	825.84	826.59	829.59	830.34	831.35	831.79	
G-S M-2	354.96	355.03	354.44	355.14	354.69	354.60	354.73	353.64	355.46	355.31	355.76	
G-S M-3	139.89	140.67	139.25	140.34	139.69	139.64	145.02	140.27	140.18	140.67	140.97	
G-S M-4	562.50	563.58	563.95	565.32	565.65	566.55	--	--	--	571.65	568.23	
TO-1	127.21	128.40	128.77	130.41	130.81	131.78	132.31	133.54	134.56	135.78	136.28	
TO-2	356.68	357.83	358.31	359.62	359.95	361.01	360.93	362.93	363.57	364.64	365.30	

-- Water levels not collected due to poor weather conditions making access to hole difficult or because problems with monitoring hole and equipment.

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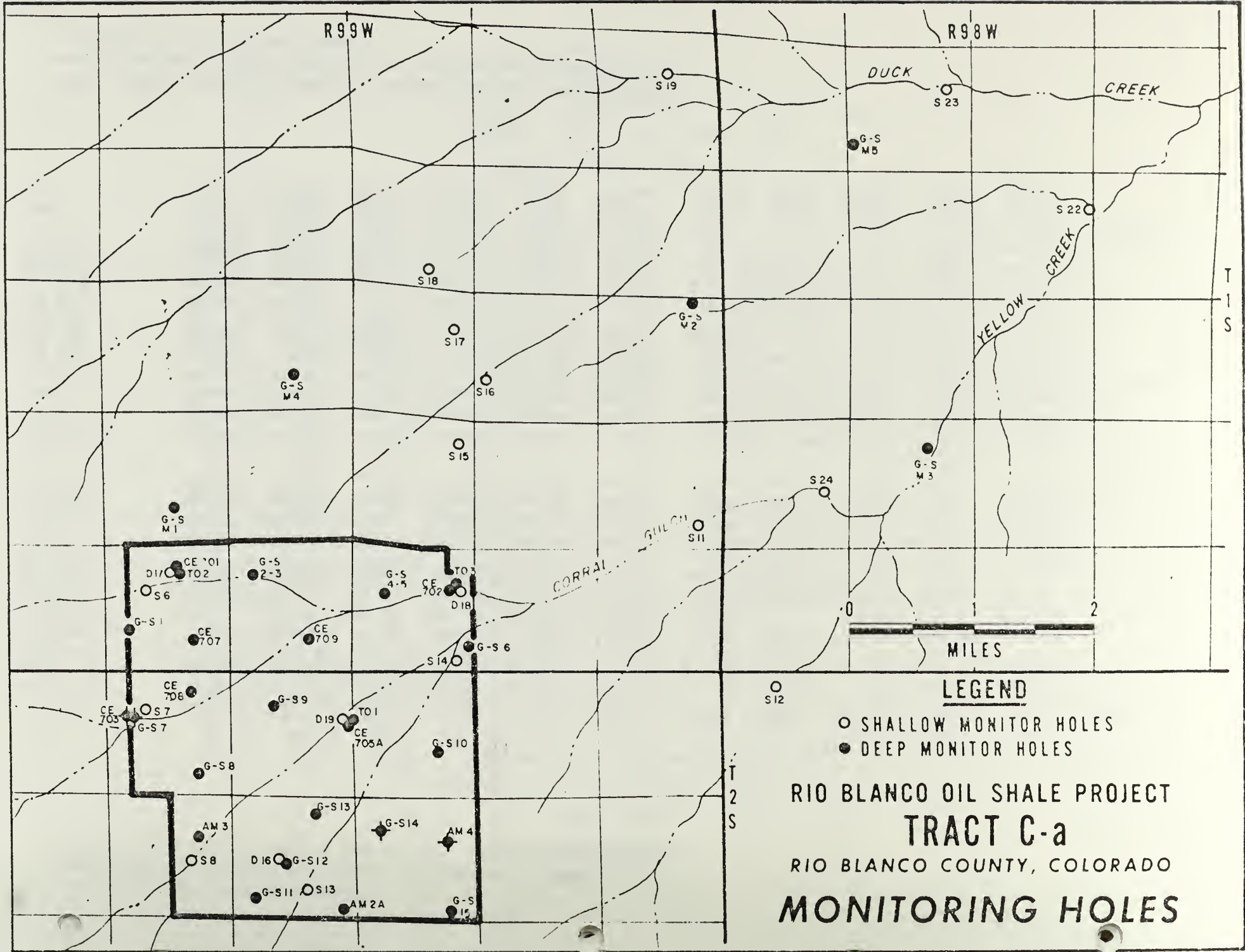
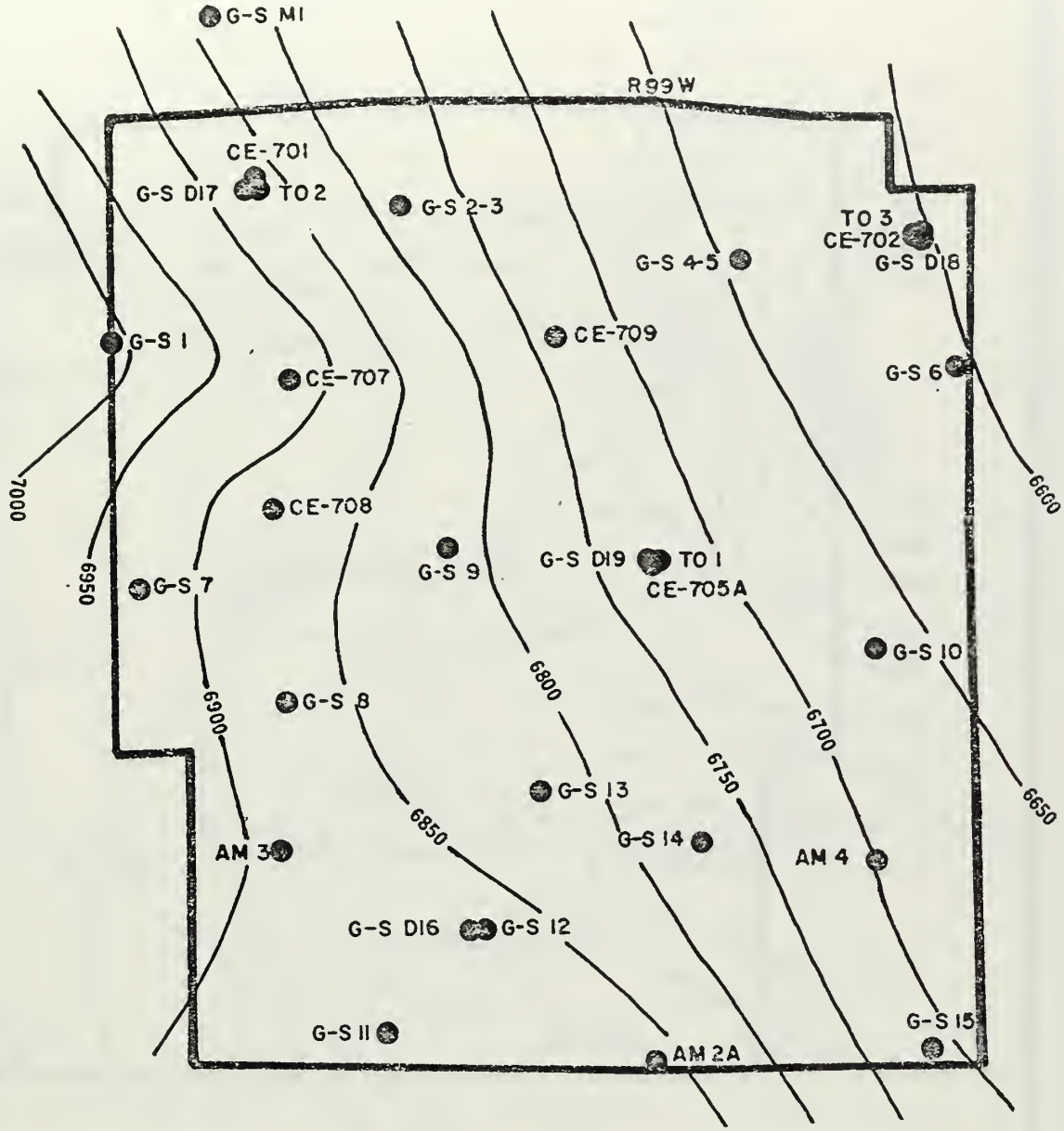

R99W
R98W
T1S
T2S
DUCK
CREEK
YELLOW
CREEK
CORRAL
GULCH
S19
S23
G-S M5
S22
S18
G-S M2
S17
S16
G-S M4
S15
G-S M3
S24
S11
G-S M1
CE 701
D17
T02
G-S 2-3
G-S 4-5
CE 702
T03
D18
S6
G-S 1
CE 707
CE 709
G-S 6
S14
CE 708
G-S 9
CE 703
S7
G-S 7
D19
T01
CE 705A
G-S 10
G-S 8
G-S 13
G-S 14
AM 3
AM 4
S8
D16
G-S 12
G-S 11
S13
AM 2A
G-S 15
S12
0
1
2
MILES
LEGEND
SHALLOW MONITOR HOLES
DEEP MONITOR HOLES
RIO BLANCO OIL SHALE PROJECT
TRACT C-a
RIO BLANCO COUNTY, COLORADO
MONITORING HOLES

Figure 1.2-48

UPPER AQUIFER

PIEZOMETRIC LEVELS (ft)

August 27, 1976



LEGEND

TRACT OUTLINE

DRILL HOLES

CONTOUR INTERVAL 50 FT

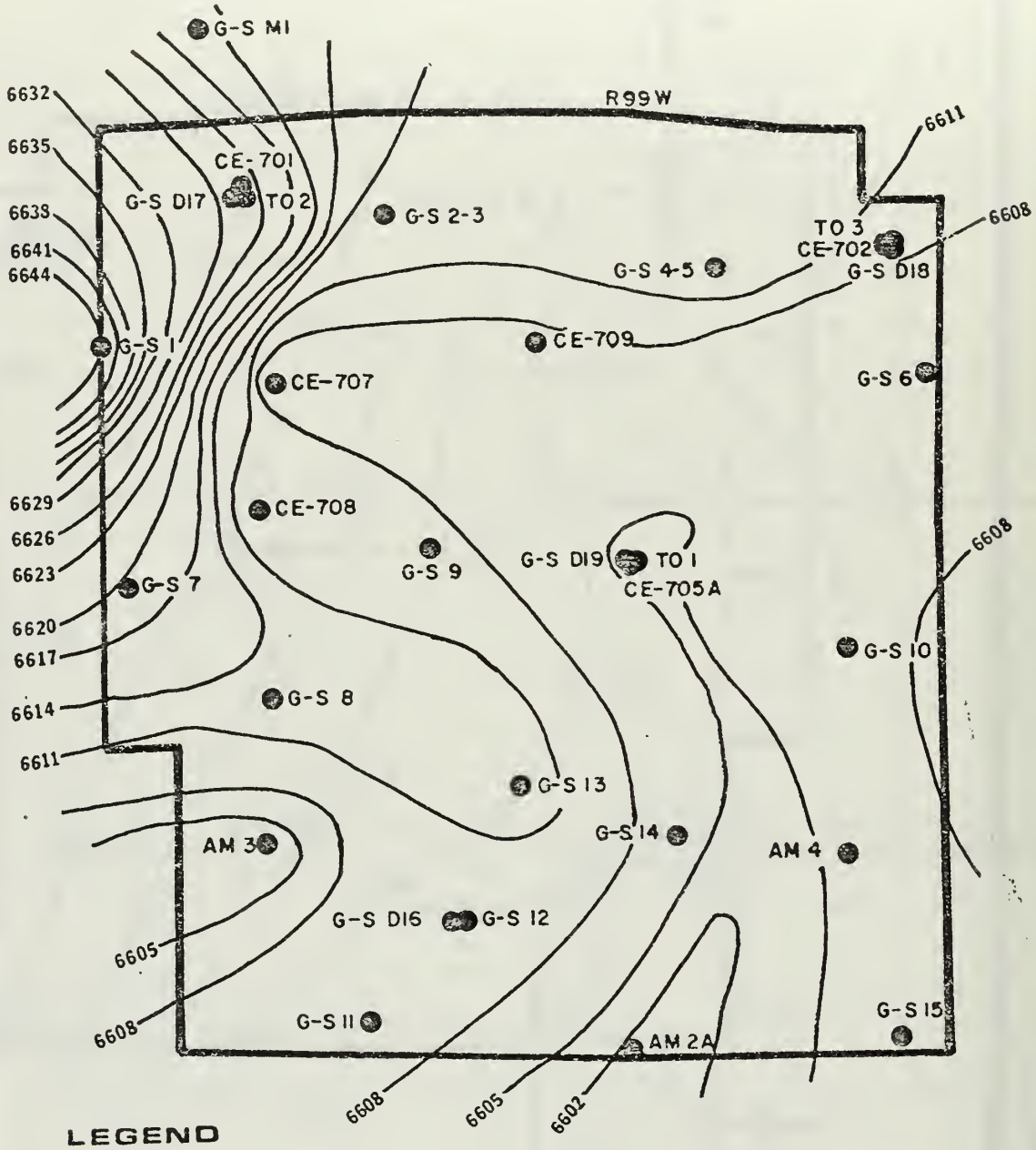
N

SCALE: 1" = 3000'

WRIGHT WATER ENGINEERS, INC.
ENGINEERING CONSULTANTS
2490 ALCOTT STREET
DENVER, COLORADO 80211
(303) 458-8801

Figure 1,2-49

LOWER AQUIFER
PIEZOMETRIC LEVELS (FT.)
AUGUST 27, 1976



LEGEND

TRACT OUTLINE

DRILL HOLES

CONTOUR INTERVAL 3 FT

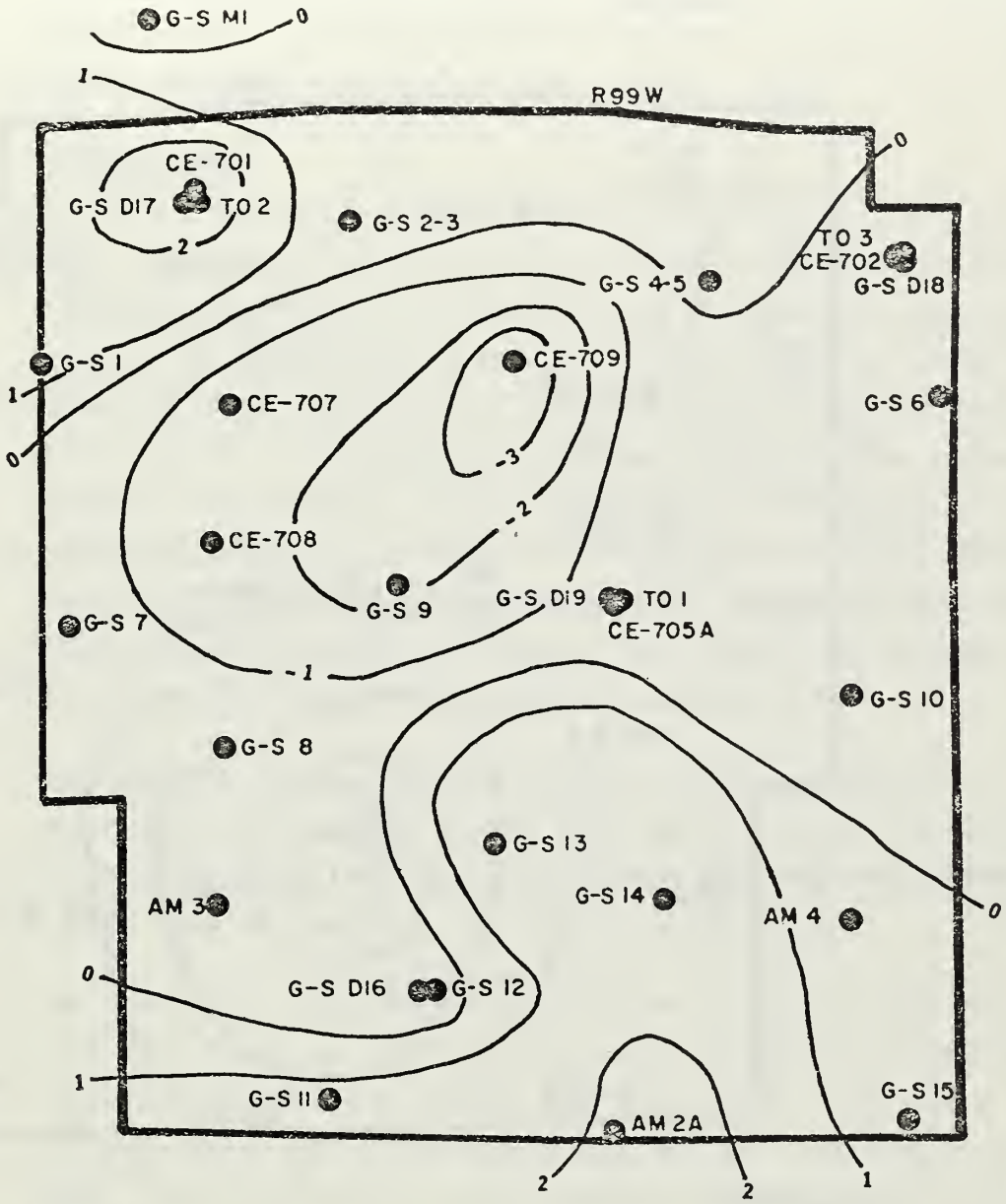
N

SCALE: 1" = 3000'

WRIGHT WATER ENGINEERS, INC.
ENGINEERING CONSULTANTS
2490 ALCOTT STREET
DENVER, COLORADO 80211
(303) 458-5301

Figure 1,2-50

UPPER AQUIFER
CHANGE IN WATER LEVEL
MAY 21 - AUGUST 27, 1976



LEGEND

TRACT OUTLINE

DRILL HOLES

CONTOUR INTERVAL 1 FT

SCALE: 1" = 3000'

WRIGHT WATER ENGINEERS, INC.
ENGINEERING CONSULTANTS
8420 ALCOTT STREET
DENVER COLORADO 80211
(303) 428 6201

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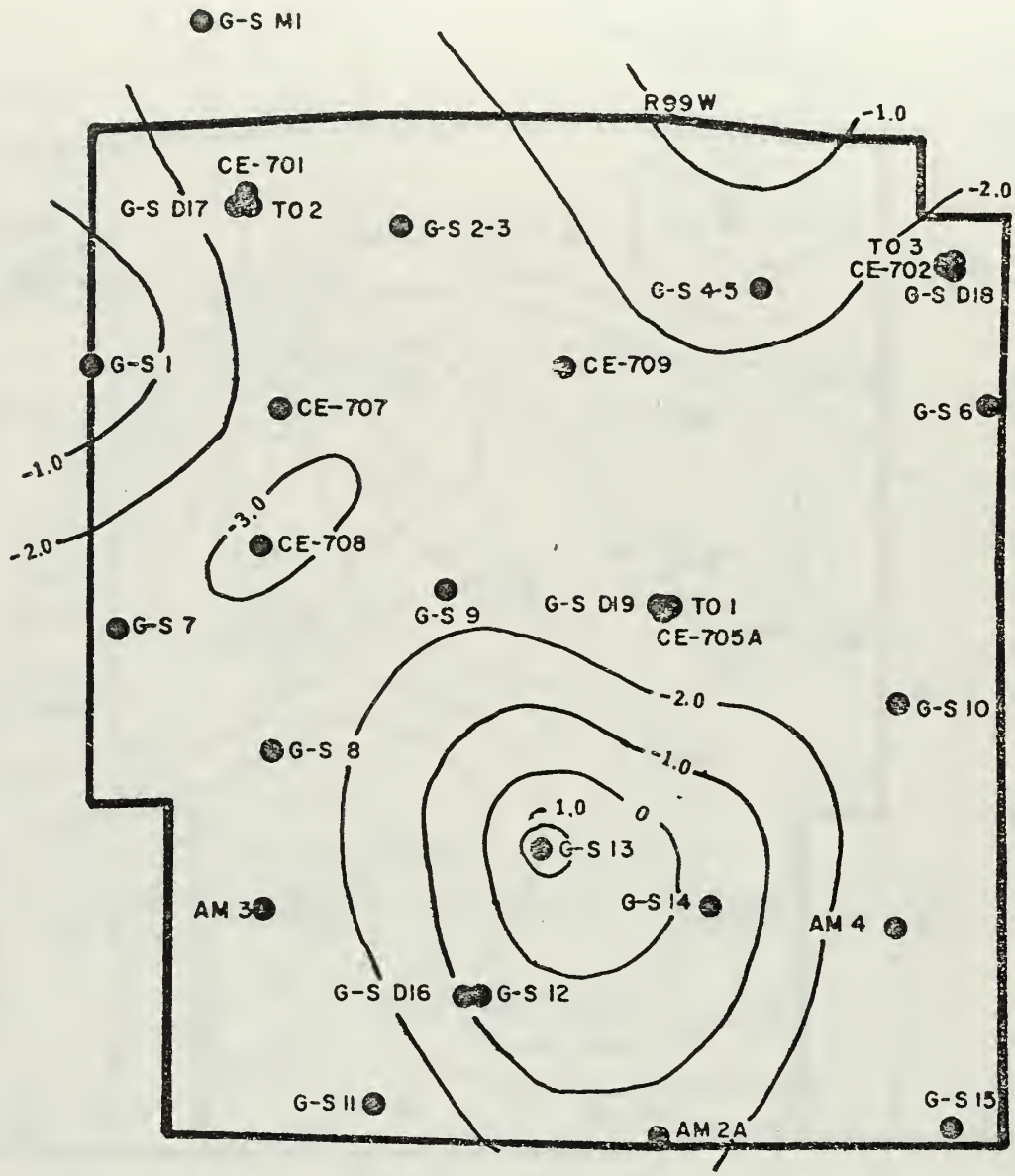
Figure 1,2-51

LOWER AQUIFER
CHANGE IN WATER LEVEL
MAY 21 - AUGUST 27, 1976



LEGEND

TRACT OUTLINE

DRILL HOLES

CONTOUR INTERVAL

SCALE: 1" = 3000'

WRIGHT WATER ENGINEERS, INC.
ENGINEERING CONSULTANTS
2490 ALCOTT STREET
DENVER, COLORADO 80211
(303) 458-8301

Figure 1,2-52

1.2.8 HYDROLOGIC PROGRAM SUMMARY

The following is a summary of the hydrologic studies related to Tract C-a monitoring during the quarter from June through August, 1976. The summary covers three main categories: surface water, alluvial aquifers and deep aquifers.

1.2.8.1 SURFACE WATER

Of the eleven stream gaging stations, five did not record measurable discharge. These stations are located on Rinky Dink Gulch near east line Tract C-a, Stake Springs Draw near the confluence with Corral Gulch, the tributary to Yellow Creek east of 84 Mesa, lower Big Duck Creek north of 84 Mesa, and Dry Fork near west line Tract C-a. Upper Big Duck Creek north of 84 Mesa gaging station recorded only isolated flows as did Box Elder Gulch near west line Tract C-a. Stations that measured relatively continuous flows for this reporting period were: Corral Gulch east of Tract C-a, Corral Gulch south of 84 Mesa, Corral Gulch near west line Tract C-a, and Yellow Creek near White River.

Conductivity values from four stations located at Corral Gulch east of Tract C-a, Corral Gulch west of Tract C-a, Corral Gulch south of 84 Mesa, and Yellow Creek near the White River ranged from 400 umhos/cm to a high of 3300 umhos/cm.

The continuous temperature data recorded at Corral Gulch near west line Tract C-a, Corral Gulch east of Tract C-a, Corral Gulch south of 84 Mesa, Yellow Creek near White River indicated a rise in temperature during the period from mid-April through mid-July, 1976. These temperature rises generally follow a rise in seasonal ambient temperature. The boron and fluoride concentrations remained at about the same levels as the average values recorded during the first year of baseline data.

Water quality analyses were made by the USGS from the stream gaging stations on Box Elder Gulch near the west line tract,

RBOSR PROGRESS REPORT

Corral Gulch near the west line tract, Corral Gulch east of tract, Corral Gulch south of 84 Mesa, and Yellow Creek near the White River. In general, data reported for this period conform with previous station values, compared to the other stations mentioned above. Yellow Creek continues to show substantially higher concentrations of many constituents. Box Elder Gulch station near west line tract generally has the lowest concentrations of the five stations. Certain constituents analyzed have shown substantial variation during this calendar year for each station. These include aluminum, aromatics (polycyclic), kjedahl nitrogen, ammonia nitrogen, organic carbon, and phosphate. Constituent concentrations that are for the five stations include arsenic, dissolved oxygen, fluoride and lithium.

Recording type precipitation data from near Cathedral Bluffs, Stake Springs Draw, and Yellow Creek indicated that wet periods occurred around May 8, May 20, mid-June, and about July 18. A very dry period was noted in late June and early July. In general, the greatest intensity of precipitation events recorded was at the Cathedral Bluffs station. Of the approximately 30 precipitation events recorded at each station over the tract, the Cathedral Bluffs station averaged 0.24 inch, with a maximum value of 0.87 inch. Stake Springs Draw values averaged 0.12 inch with a maximum value of 0.74 inch. The Yellow Creek gage recorded an average fall of 0.10 inch with a maximum value of 0.41 inch. Storage type precipitation gages from Dry Fork Gulch, Box Elder Gulch, and Corral Gulch generally correlated for relative amounts of precipitation over the same time period. Therefore, widespread events did occur with all stations showing an apparent dry spell in early July.

1.2.8.2 ALLUVIAL AQUIFER

The alluvial holes which encountered water were: G-S S-7, G-S S-8, G-S S-11, G-S S-12, G-S S-19, G-S S-22, G-S S-23, and G-S S-24. During the quarter the average water level observed in the alluvial holes fell approximately 1.2 feet. Alluvial holes G-S S-7, G-S S-8, G-S S-19, and G-S S-23 showed a consistent downward trend in water levels through the quarter. Two of the holes, G-S S-11 and G-S S-24, showed water level declines from late June through July then rose from late July through August. Alluvial hole G-S S-22 water level rose in late June through July, then fell during the last part of the quarter. A consistent upward trend in water level was observed in G-S S-12.

Field measurements of conductivity showed an average quarterly increase of 220 umhos/cm in holes G-S S-7, G-S S-11, G-S S-12, G-S S-22, G-S S-24, with an average decrease of 350 umhos/cm observed in holes G-S S-8, G-S S-19, and G-S S-23. The August measurement of specific conductance ranged from 900 umhos/cm to 1950 umhos/cm. Water temperature ranged from 6.7^{o} C. at G-S S-7 in June to 12.2^{o} C. in G-S S-22 in July. Five holes that showed overall quarterly decreases in water temperature are G-S S-11, G-S S-12, G-S S-19, G-S S-22, and G-S S-23, while temperatures in G-S S-7, S-8 and S-24 increased. Measurements of pH remained between 6.1 to 6.9. G-S S-23 showed slightly dropping values, with the rest of the holes showing increases or little change.

Overall water quality of the alluvial aquifer remained relatively stable. The major constituents are: bicarbonate, magnesium, silicon dioxide, sodium, total dissolved solids, alkalinity, and sulfate. Calcium and carbonate concentrations increased by 50% to 100% as compared to last quarter. Constituents which showed significant decreases are iron, boron, and nitrate.

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1.2.8.3 DEEP AQUIFER MONITORING

Water samples are collected semi-annually from deep monitoring holes. Static water levels are measured on a monthly basis with the exception of G-S S-10 and G-S M-4. Since that time, measures were taken to correct the problems with the equipment and the holes so as to obtain samples. The latest samples analyzed were collected in March 1976. Water samples have been collected and analyzed from these two holes.

An investigation of G-S S-8 revealed that the hole was plugged at approximately 630 feet below ground. The data collected on G-S S-8 during the monitoring period are not representative of aquifer characteristics. In G-S M-4, a bailer was wedged in the tubing on a deposit build up. The tubing was cleaned and reestablished in the hole. Samples from G-S M-4 and from G-S S-10 were collected in August 1976 and are reported in this progress report.

Along the north side of the tract upper aquifer water levels were stable with the exception of TO-2. Water levels around CE-709 decreased by 1 to 3 feet over a three month period. The southern portion of the tract had increasing water levels. The central portion of this area showed highest increasing levels in this reporting period. The lower aquifer piezometric surface has decreased from May 21 through August 27 of from 1 to 2 feet. One exception to the decreasing piezometric surface is in the area of G-S 13.

RIO BLANCO OIL SHALE REPORT
PROGRESS REPORT 8

JUNE, JULY, AUGUST 1976

HYDROLOGIC PROGRAM
SECTION 1.2

RAW DATA

October 15, 1976

GULF OIL CORPORATION
and
STANDARD OIL COMPANY (INDIANA)

RBOSP PROGRESS REPORT

TABLE OF CONTENTS

	Section No.
U.S.G.S. Precipitation and Surface Water Data	1.2.2
Water Quality Data, Alluvial Aquifer Monitoring Program	1.2.3
Water Quality Data, Deep Aquifer Monitoring Program	1.2.7
Water Level Data, Deep Aquifer Monitoring Program	1.2.7

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SURFACE WATER DATA COLLECTION

SECTION 1.2.2

U.S.G.S. PRECIPITATION AND SURFACE WATER DATA

RBOSP PROGRESS REPORT

EXPLANATION - U.S.G.S. GAGE DATA

Recording Type Rain Gage Stations

Corral Gulch near Cathedral Bluffs Station
Stake Spring Draw Station
Yellow Creek near White River Station

Storage Type Rain Gage Stations

Dry Fork Gulch Station
Box Elder Bulch West of Tract C-a Station
Corral Gulch West of Tract C-a Station

Discharge, Water Year 1976

Box Elder Gulch near West Line Tract C-a
Corral Gulch near WEst Line Tract C-a
Corral Gulch East of Tract C-a
Corral Gulch South of 84 Mesa
Yellow Creek near White River, Colorado
"Rinky Dink" Gulch near East Line Tract C-a
Stake Springs Draw near Confluence with Corral Gulch
Tributary to Yellow Creek East of 84 Mesa
Upper Big Duck Creek North of 84 Mesa
Lower Big Duck Creek North of 84 Mesa

Specific Conductance, Water Year 1976

Corral Gulch East of Tract C-a
Corral Gulch South of 84 Mesa
Yellow Creek near White River, Colorado

Continuous Mean Temperature, Water Year 1976

Corral Gulch East of Tract C-a
Corral Gulch South of 84 Mesa
Yellow Creek near White River, Colorado

Chemical Analysis, Water Year 1976

Box Elder Gulch near West Line Tract C-a
Corral Gulch near West Line Tract C-a
Corral Gulch East of Tract C-a
Corral Gulch South of 84 Mesa
Yellow Creek near White River, Colorado
"Rinky Dink" Gulch near East Line Tract C-a
Stake Springs Draw near Confluence with Corral Gulch
Tributary to Yellow Creek East of 84 Mesa
Upper Big Duck Creek North of 84 Mesa
Lower Big Duck Creek North of 84 Mesa

RBOSP PROGRESS REPORT

DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

File No. { District .....

STATION: Corral Gulch or Cash Bluffs YEAR: 76

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0.02							0.02				
2	0.03							0.10				
3												
4	0.03			0.19								
5	0.04	0.06										
6	0.02	0.21			0.12							
7					0.11							
8			—		0.28		0.05	0.09				
9					0.21							
10			0.02									
11			0.49			0.11		0.45				
12			0.03				0.03					
13						0.65						
14		0.27		0.16								
15		0.11										
16				0.14		0.25						
17		0.05		0.25		0.30	0.25					
18				0.38			0.35					
19		0.15										
20		0.52			0.08							
21					0.05							
22					0.03	0.43		0.30				
23				0.03	0.06							
24	0.11											
25	0.15		0.60	0.10			0.87					
26				0.57			0.44	0.13				
27												
28												
29												
30		X			0.05							
31		X		X			0.05					
Sum	0.40	1.37	1.14	1.82	0.99	1.74	2.04	1.09				

RBOSP PROGRESS REPORT

DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

File No. District

STATION: Stake Springs YEAR: 76

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1			0.12					0.01				
2			0.77									
3			0.03									
4			0.28									
5	0.01	0.07	0.05	0.15								
6	0.04	0.13			0.01							
7					0.12							
8					0.32			0.06				
9		0.01										
10		0.07	0.02		0.09			0.09				
11			0.04			0.04		0.04				
12			0.02	0.05			0.16					
13				0.01		0.47						
14			0.02	0.09		0.05						
15			0.02									
16		0.16		0.03		0.20						
17				0.16		0.23	0.20	0.05				
18				0.30			0.20					
19		0.30	0.02	0.02								
20		0.20			0.10							
21					0.01	0.07						
22						0.73		0.08				
23				0.04	0.11							
24	0.03				0.10?							
25	0.05		0.24	0.02	0.07							
26				0.06			0.02	0.09				
27							0.01					
28												
29												
30					0.07							
31							0.38					
um	0.13	0.94	1.63	0.93	1.00	1.79	0.97	0.42				

RBOSP PROGRESS REPORT

DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

File No. { Washington ..... District .....

STATION: Yellow Creek

YEAR: 76

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1			0.06									
2			0.73									
3								0.24				
4			0.19									
5	0.01		0.01	0.30								
6	0.14				0.06							
7					0.08							
8					0.07			0.05				
9		0.03										
10					0.06		0.05					
11			0.22		0.01			0.04				
12			0.01				0.10					
13				0.02		0.41						
14		0.08	0.01			0.11						
15		0.01	0.02									
16				0.05		0.09						
17		0.13		0.21			0.08	0.05				
18				0.10			0.10					
19		0.19		0.03	0.04							
20		0.08		0.02								
21					0.03							
22			0.01			0.21		0.05				
23			0.02		0.19							
24	0.06				0.05							
25	0.06		0.18	0.02			0.05					
26	0.02			0.19				0.23				
27			0.01	0.01								
28												
29												
30		X					0.20					
31		X		X		X	0.50					
Sum	0.29	0.52	1.47	0.95	0.59	.82	1.08	0.66				

RBOSP PROGRESS REPORT

P-280

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

File No. { Washington ..... District .....

STATION: DRY FORK GULCH YEAR: 1976

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1												
2				0.26*								
3								0.53				
4												
5							0.00					
6							0.00					
7												
8						0.71						
9					0.44							
10												
11				0.74								
12												
13												
14												
15						1.03						
16								0.69				
17							0.88					
18												
19												
20												
21												
22												
23				0.47		0.28						
24					0.64							
25												
26												
27								0.22				
28												
29				DRY								
30												
31				X								
SUM												

* RAIN IN BUCKET WHEN GAUGE STARTED FOR 1976

U.S. GOVERNMENT PRINTING OFFICE : 1965—O-764-759

RBOSP PROGRESS REPORT

9-880

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

File No. { Washington ..... District .....

STATION: BOX ELDER GULCH YEAR: 1976

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1				1.55*								
2												
3												
4								0.69				
5												
6							0.16					
7						0.72						
8												
9												
10												
11					0.41							
12												
13				0.63								
14												
15						1.27						
16												
17							0.57					
18								0.65				
19												
20												
21												
22						0.29						
23												
24												
25				0.32	0.67							
26												
27												
28												
29												
30												
31												
SUM												

* RAIN IN BUCKET WHEN GAUGE STARTED FOR 1976

U.S. GOVERNMENT PRINTING OFFICE : 1965—O-763-759

RBOSP PROGRESS REPORT

DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

File No. { Washington ..... District .....

STATION: CORRAL GULCH BELOW WATER GL YEAR: 76

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1												
2												
3												
4								0.39				
5												
6			0.38				0.00					
7		0.65				0.79						
8												
9												
10					0.80"							
11				0.65								
12												
13												
14												
15			DRY			0.82						
16								0.44				
17							0.71					
18												
19												
20												
21												
22												
23						0.18						
24					0.66'							
25												
26												
27		0.34*	0.2"	DRY								
28												
29												
30												
31												
SUM												

* Gage blown over by wind - water content of snow that fell Feb 26 through Mar 4.

RBOSP PROGRESS REPORT

9-122-a. July 1[illegible]

Daily Gage Height, in Feet, and Discharge, in Second-Feet, of DRY FORK ~~River~~ Creek (PRELIMINARY DATA SUBJECT TO REVISION)

Near RANGELY, COLORADO for the Year Ending September 30, 1976.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

DRY FORK NR RANGELY COLO. 1976

File Number: Washington 09306[illegible]; District

Used rating table dated NO. 1 OCT. 1 - JUNE 2[illegible]; NO. 2 JUNE 26 - SEPT[illegible]

Drainage Area 2.74 Square Miles. Water-Stage Recorder CONTINUOUS Ratio 1 : 6 Gage Read to ..... Once/Twice a Day by .....

Gage heights used to half tenths between ..... and ..... hundredths below and tenths above these limits.

Day	October Gage height	October Discharge	November Gage height	November Discharge	December Gage height	December Discharge	January Gage height	January Discharge	February Gage height	February Discharge	March Gage height	March Discharge
1					a		a			0	S	.02
2							CLOCK STOPPED RANGE 0.79-0.81			0		0
3										0		0
4										0		0
5										0		0
6										0		0
7										0		0
8										0		0
9							a			0		0
10									a	0		0
11									CLK. STOP 2.73-2.03	0		0
12										0		0
13										0		0
14			a							0		0
15										0		0
16		No Flow		No Flow	CLOCK STOPPED RANGE 0.79 - 4.81	No Flow		No Flow		0		0
17										0		0
18										0		.04
19										0		0
20										0		0
21			CLOCK STOPPED RANGE 0.79 - 2.81							0		0
22										0	S	0.15
23										0	S	.41
24										0	S	.60
25										0		0
26									S	.01		0
27										0		0
28										0		0
29										0		0
30			a						X	X		0
31			X	X	a				X	X	S	.32
Total		0		0		0		0		.01		1.54

Day	April Gage height	April Discharge	May Gage height	May Discharge	June Gage height	June Discharge	July Gage height	July Discharge	August Gage height	August Discharge	September Gage height	September Discharge
1	S	0.34				0						
2	S	.21				0						
3	S	.04				0						
4		0				0						
5		0				0						
6		0				0						
7		0				0						
8		0				0						
9		0				0						
10		0				0						
11		0				0						
12		0				0						
13		0				0						
14		0				0						
15		0				0						
16		0		No Flow		0		Flow				
17		0			S	.03						
18		0				0						
19		0				0						
20		0				0						
21		0				0						
22		0				0						
23		0				0						
24		0				0						
25		0				0						
26		0				0						
27		0				0						
28		0				0						
29		0				0						
30		0				0						
31	X	X			X	X					X	X
Total		0.59		0		.03		0				

Mean Second-feet per square mile
Runoff in inches
Runoff in acre-feet
Maximum
Minimum

Quarter: Computed / Checked

Quarter: Discharge equated / Discharge checked

Quarter: G.H. equated / G.H. checked

Period Year 19[illegible]

X - OBSERVATION OF NO FLOW.
S - DISCHARGE SUBDIVIDED. V - VARIABLE. SHIFT, DISCHARGE ESTIMATED FOR VAL. "-" - NO GAGE HEIGHT RECORD. "ICE EFFECT"

RBOSP PROGRESS REPORT

9-192-a. 7-27-15

Daily Gage Height, in Feet, and Discharge, in Second-Feet, of BOX ELDER GULCH ~~River~~ ~~Creek~~

Near RANGELY, COLORADO for the Year Ending September 30, 1976

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

BOX ELDER GULCH
NR. RANGELY, COLO.
1976

File Number { Washington 09306200
District

Used rating table dated NO. 2

Drainage Area ..... Square Miles. Water-Stage Recorder CONTINUOUS Ratio 1 : 6

Gage Read to ..... Once / Twice a Day by PRELIMINARY DATA SUBJECT Gage heights used to half tenths between ..... and ..... for hundredths below and tenths above these limits.

Day	October Gage height	October Discharge	November Gage height	November Discharge	December Gage height	December Discharge	January 1976 Gage height	January 1976 Discharge	February Gage height	February Discharge	March Gage height	March Discharge
1									a	0	1.80 b	.04
2										0	2	.03
3										0		.01
4										0		0
5										0		0
6										0		0
7										0		0
8										0		0
9										0		0
10										0		.01
11										0		.01
12										0	a	.10
13										a .01	1.19 b	.08
14										1.11 b .01	1.08	.06
15										1.13 .01	1.08	.06
16										1.11 .01	1.13 b	.10
17										1.10 b .01	S 01	.14
18										a 0	S	.40
19										0	S 01	.02
20										0		0
21										0	S 01	0
22										0	S 01	.11
23										0	S 01	.08
24										0	S 01	.29
25										a 0		0
26										1.70 b .02		0
27										1.78 .04		0
28										1.82 .06		0
29										1.79 b .05		0
30										X X		0
31										X X	S	.14
Total		0		0		0		0		.22		1.70

FLOW. NO FLOW. NO FLOW. NO FLOW. NO FLOW. WELL FROZEN. WELL FROZEN. WELL FROZEN.

Day	April Gage height	April Discharge	May Gage height	May Discharge	June Gage height	June Discharge	July Gage height	July Discharge	August Gage height	August Discharge	September Gage height	September Discharge
1	S	0.45		0	1.34	.25						
2	S	.28		0	1.34	.25						
3	S	.12		0	1.35	.28						
4	S	.01		0	a	.24						
5		0		0	a	.19						
6		0		0	a	.12						
7		0	S	.12	a	.08						
8		0	1.23	.32	a	.05						
9		0	1.30	.50	S	.04						
10		0	1.25	.38	S	.04						
11		0	S	.06	S	.04						
12		0	1.35	.66	S	.06						
13		0	1.40	.82	S	.04						
14		0	1.37	.72	S	.07						
15		0	1.40	.79	S	.07						
16		0	1.44	.86	S	.07						
17		0	1.45	.82	S	.11						
18		0	1.46	.79	S	.03						
19		0	1.46	.72	S	.03						
20		0	1.45	.63	S	.02						
21		0	1.46	.66	S	.01						
22		0	1.45	.63	S	.04						
23		0	1.43	.56	S	.02						
24		0	1.41	.50	S							
25		0	1.41	.50								
26		0	1.39	.45								
27		0	1.37	.38								
28		0	1.36	.32								
29		0	1.36	.32								
30		0	1.36	.32		0						
31	X	X	1.36	.32	X	X						
Total		0.86		13.15								

Mean
Second-feet per square mile
Run-off in inches
Run-off in acre-feet
Maximum
Minimum

Max. G. H. ..... ft. at ..... on
Min. G. H. ..... ft. on
Mean G. H. ..... ft.
S. DISCHARGE SHOWNED ..... K. DISCHARGE ESTIMATED ..... E.
"a" NO GAGE HEIGHT RECORD. "b" GAGE HEIGHT DOUBTFUL. X. EXCAVATION PER NO
FLOW.

Quarter Year 1975

Quarter Year 1976

Quarter: First / Second / Third / Fourth
Computed ..... Checked ..... Date
Quarter: First / Second / Third / Fourth
Ditch applied ..... Ditch checked ..... Date
Quarter: First / Second / Third / Fourth
G. H. copied ..... G. H. checked ..... Date

PRELIMINARY DATA SUBJECT TO REVISION

RBOSP PROGRESS REPORT

9-1962-a July 1957

Daily Gage Height, in Feet, and Discharge, in Second-Feet, of CORRAL GULCH BELOW WATER GULCH ~~River~~ ~~Creek~~

Near RANGELY, COLORADO for the Year Ending September 30, 1976

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

CORRAL GL.
BELOW WATER GL.
NR. RANGELY, CO
1976

File Number { Washington 09306235 / District

Used rating table dated No. 3

Drainage Area 8 Square Miles. Water-Stage Recorder CONTIKHOUS Ratio 1 : 6

Gage Read to ____ Once / Twice a Day by ____

Gage heights used to half tenths between ____ and ____ hundredths below and tenths above these limits.

Hor. ft. at 1800 on APR. 1 (G. H. 1.53 ft.). Max. G. H. ____ ft. at ____ on ____
Hor. ft. on ____ (G. H. ____ ft.). Min. G. H. ____ ft. on ____
Min. Discharge ____

S - DISCHARGE SHADOWED. V - VARIABLE. SHIFT. DISCHARGE ESTIMATED FOR "S" - Subdivided Day
"a" - NO GAGE HEIGHT RECORD. "b" - ICE EFFECT.
X - CONDITION OF NO FLOW.

Day	October Gage height	October Discharge	November Gage height	November Discharge	December Gage height	December Discharge	January Gage height	January Discharge	February Gage height	February Discharge	March Gage height	March Discharge
1	1.21	.38	1.22	.32	a	.03	a	.03				0
2	1.21	.38	1.20	.32	WELL FROZEN	.04	CLOCK STOPPED	.03				0
3	1.21	.38	1.20	.32		.04		.03				0
4	1.21	.38	1.20	.33		.04		.03				0
5	1.21	.36	1.20	.34	a	.05		.03				0
6	1.21	.36	1.20	.33	1.31	b .05		.02				0
7	1.21	.36	1.22	.32	1.30	.05		.02				0
8	1.22	.41	1.20	.33	1.28	.06		.02				0
9	1.23	.44	1.22	.34	1.25	.06	a	.01				0
10	1.23	.44	1.23	.36	1.24	.06		.01				0
11	1.24	.47	1.23	.39	1.21	b .06		0				0
12	1.24	.47	1.22	.39	a	.06		0				0
13	1.24	.47	1.21	.37	a	.07		0				0
14	1.24	.47	a	.35	1.18	b .06		0				0
15	1.23	.44	FLOAT FROZEN	.35	a	.05		0				0
16	1.24	.47		.35	1.20	b .05		0				0
17	1.24	.47		.35	a	.05		0				0
18	1.25	.50	a	.35	WELL FROZEN	.05		0				0
19	1.24	.47	1.26	b .35		.04		0				0
20	1.24	.47	a	.30		.04		0				0
21	1.23	.44		.25		.04		0				0
22	S	.36		.18		.04		0			a	.02
23	a	.25		.15	a	.04		0			a	.06
24	1.23	b .25		.10	a	.04		0			S	.19
25	1.20	.33		.05		.03		0			a	.05
26	1.21	.35	FLOAT FROZEN	.02	CLOCK STOPPED	.03		0				0
27	1.21	.33		.03		.03		0				0
28	1.21	.35		.04		.03		0				0
29	1.20	.36		.03		.03		0				0
30	1.22	.36	a	.03		.03		0	X	X		0
31	1.22	b .35	X	X	a	.03		0	X	X	S	.03
Total		12.39		7.74		1.38		0.23		0		.40

Day	April Gage height	April Discharge	May Gage height	May Discharge	June Gage height	June Discharge	July Gage height	July Discharge	August Gage height	August Discharge	September Gage height	September Discharge
1	S	.38	1.10	.07	1.05	.07	1.06	.14				
2	S	.35	1.10	.07	1.04	.07	1.02	.07				
3	S	.25	1.10	.07	1.04	.07	1.03	.08				
4	S	.21	1.10	.07	1.03	.07	1.04	.10				
5	a	.27	1.10	.07	1.02	.06	1.03	.08				
6	1.17	.35	1.09	.07	1.03	.07	1.03	.08				
7	1.22	.50	1.08	.06	1.02	.06	1.02	.10				
8	1.18	.38	1.08	.06	1.02	.06	1.02	.07				
9	1.12	.24	1.07	.05	S	.04	1.02	.07				
10	a	.20	1.06	.04	S	.04	1.02	.07				
11	FLOWING INTAKE	.12	1.06	.04	0.99	.03	1.03	.08				
12		.10	1.05	.04	1.04	.08	1.03	.08				
13		.08	1.05	.04	S	.07	1.02	.10				
14		.08	1.05	.04	S	.09	1.05	.12				
15		.08	1.04	.03	1.04	.08	1.02	.10				
16		.08	1.05	.04	1.04	.08	1.05	.12				
17		.08	1.04	.03	1.07	.12	1.05	.12				
18		.09	1.05	.04	1.05	.10	1.06	.12				
19	a	.10	1.06	.05	1.06	.12	1.05	.12				
20	1.19	.24	1.07	.06	1.05	.12	1.05	.12				
21	1.19	.24	REV. RAISED	.07	1.05	.12						
22	1.19	.24		.08	1.06	.14						
23	1.19	.24		.09	1.05	.12						
24	1.18	.22	a	.09	1.06	.14						
25	1.18	.22	1.10	.10	1.07	.16						
26	1.17	.20	1.09	.08	1.06	.14						
27	1.15	.16	1.07	.07	1.06	.14						
28	1.14	.14	1.06	.06	1.06	.14						
29	1.12	.10	1.05	.06	1.07	.16						
30	1.12	.10	1.07	.08	1.07	.16						
31	X	X	1.05	.07	X	X						
Total		6.04		1.89		2.80						

PRELIMINARY DATA SUBJECT TO REVISION

Quality of Water Year 1975

Period of Record: Publication: Fourth: Fifth: Sixth: Seventh: Eighth: Ninth: Tenth: Eleventh: Twelfth: Quarters: Computed: Checked: Discharge applied: Discharge checked: Quarters: G. H. copied: G. H. checked: Period of Record: Year

Mean ____ Second-feet per square mile ____
Runoff in inches ____
Runoff in acre-feet ____
Maximum ____
Minimum ____

PROGRESS REPORT

9-199-a. July 1937

Daily Gage Height, in Feet, and Discharge, in Second-Feet, of BOX ELDER GULCH TRIB. ~~River~~ ~~Creek~~

* Near RANGELY, COLORADO for the Year Ending September 30, 1976

Drainage Area 2.39 Square Miles. Water-Stage Recorder CONTINUOUS Ratio 1 : 6

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

BOX ELDER GL. TRIB.
NR. RANGELY, CO.
1976

File Number { Washington 09306C / District

Used rating table dated NO F

Gage Read to ..... Once / Twice a Day by PRELIMINARY DATA SUBJECT TO REVISION

Gage heights used to half tenths between ..... and ..... hundredths below and tenths above these limits.

Day	October Gage height	October Discharge	November Gage height	November Discharge	December Gage height	December Discharge	January Gage height	January Discharge	February Gage height	February Discharge	March Gage height	March Discharge
1										0		0
2										0		0
3										0		0
4										0		0
5								No Flow		0		0
6										0		0
7										0		0
8										0		0
9									* S	b .10		0
10									S	b .20		0
11									a	.20		0
12									a	.05		0
13							*		a	.10		0
14		No Flow		No Flow		No Flow			S	b .30		0
15										0		0
16										0		0
17									a	0		0
18									* a	0	a	.05
19									a	0		0
20									a	0		0
21									a	0		0
22									a	0		0
23									a	0		0
24									a	0		0
25									a	0		0
26									a	0		0
27									* a	0		0
28									a	.20		0
29										0		0
30									X	X		0
31			X	X					X	X		0
Total		0		0		0		0		1.15		0.05

Day	April Gage height	April Discharge	May Gage height	May Discharge	June Gage height	June Discharge	July Gage height	July Discharge	August Gage height	August Discharge	September Gage height	September Discharge
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12			*									
13												
14												
15												
16												
17												
18		No Flow		No Flow		No Flow						
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31	X	X			X	X						
Total		0		0		0						

Day | Quarter | Second | First | Quarter | Third | Fourth | Computed / Checked

Day | Quarter | Second | First | Quarter | Third | Fourth | Ditch applied / Ditch checked

Day | Quarter | Second | First | Quarter | Third | Fourth | G. H. copied / G. H. checked

Water Year 19 75

Mean
Second-feet per square mile
Runoff in inches
Runoff in acre-feet
Maximum
Minimum

Rec. ft. at ..... on ..... (G. H. ..... ft.), Max. G. H. ..... ft. at ..... on ..... (G. H. ..... ft.), Min. G. H. ..... ft. on ..... (G. H. ..... ft.). SHOWS DISCHARGE SUBMITTED. * PRELIMINARY. SHOWS POSSIBLE RESUBMITTED. FOR "a" ON ORIG. REPORT WERE "S" WITH EFFECT. X OBSERVATION OF NO FLOW

Mtn. Ditch

PRELIMINARY DATA SUBJECT TO REVISION

RBOSP PROGRESS REPORT

9-1224-a July 1927

Daily Gage Height, in Feet, and Discharge, in Second-Feet, of CORRAL GULCH ~~River~~ Creek

Near RANGELY, COLORADO for the Year Ending September 30, 1976

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

CORRAL GL. NR. RANGELY, CO 1976

File Number { Washington 09306225 / District

Used rating table dated No. 3

Drainage Area 31.6 Square Miles. Water-Stage Recorder CONTINUOUS Ratio 1 : 6

Gage Read to ____ Once / Twice a Day by ____

Gage heights used to half tenths between ____ and ____ hundredths below and tenths above these limits.

Day	October Gage height	October Discharge	November Gage height	November Discharge	December Gage height	December Discharge	January Gage height	January Discharge	February Gage height	February Discharge	March Gage height	March Discharge
1	1.16	.54	1.18	.63	1.14	.50	1.14	0.50	1.13	0.40	S	1.4
2	1.16	.54	1.18	.63	1.14	.50	1.14	.50	1.13	.40	1.17	.50
3	1.16	.54	1.18	.63	1.14	.50	1.14	.50	1.13	.40	1.16	.43
4	1.15	.50	1.18	.63	1.14	.50	1.14	.50	1.13	.40	1.17	.46
5	1.15	.50	1.18	.63	1.14	.50	1.14	.46	1.12	.36	1.17	.43
6	1.15	.50	1.18	.68	1.13	.46	1.14	.46	1.12	.36	1.16	.40
7	1.15	.50	1.18	.68	1.13	.46	1.14	.46	1.12	.36	1.17	.43
8	1.15	.50	1.18	.68	1.13	.46	1.14	.46	1.12	.36	1.17	.40
9	1.16	.54	1.18	.68	1.13	.46	1.14	.46	S	.88	1.17	.40
10	1.16	.54	1.17	.63	1.13	.46	1.13	.43	1.22	.84	1.17	.36
11	1.16	.54	1.17	.63	1.13	.46	1.12	.40	1.20	.73	1.18	.40
12	1.16	.54	1.16	.55	1.13	.46	1.13	.43	1.20	.73	1.18	.40
13	1.16	.54	1.16	.55	1.13	.46	1.12	.40	1.18	.68	1.17	.36
14	1.16	.54	1.16	.55	1.13	.46	1.12	.40	1.18	.68	1.17	.36
15	1.16	.54	1.16	.55	1.13	.46	1.12	.40	1.14	.54	1.17	.36
16	1.16	.54	1.16	.55	1.13	.46	1.11	.36	1.14	.54	1.17	.36
17	1.16	.54	1.16	.55	1.13	.46	1.11	.31	1.14	.54	1.20	.46
18	1.16	.54	1.16	.55	1.13	.46	1.11	.31	1.14	.54	S	2.1
19	1.16	.54	1.15	.54	1.13	.46	1.12	.36	1.15	.58	a	.40
20	1.16	.54	1.14	.50	1.13	.46	1.12	.36	1.14	.54	Well silted	.40
21	1.16	.54	1.14	.50	1.13	.46	1.12	.36	1.14	.54		.40
22	1.16	.54	1.13	.46	1.13	.46	1.12	.36	1.14	.54		.40
23	1.16	.54	1.13	.46	1.13	.46	1.12	.36	1.14	.54	a	.40
24	1.16	.54	1.13	.46	1.14	.50	1.13	.40	1.15	.58	1.20	.46
25	1.16	.54	1.13	.46	1.14	.50	1.13	.40	1.15	.58	1.17	.36
26	1.17	.58	1.13	.46	1.14	.50	1.13	.40	1.16	0.63	1.18	.40
27	1.18	.63	1.13	.46	1.14	.50	1.14	.43	S	1.3	1.16	.31
28	1.18	.63	1.13	.46	1.14	.50	1.14	.43	S	1.0	1.16	.31
29	1.17	.58	1.14	.50	1.13	.46	1.14	.43	S	1.2	1.16	.31
30	1.17	.58	1.14	.50	1.13	.46	1.14	.43	X	X	1.15	.29
31	1.18	.63	X	X	1.13	.46	1.14	.43	X	X	1.16	.31
Total		16.92		16.95		14.66		12.89		17.77		14.76

Day	April Gage height	April Discharge	May Gage height	May Discharge	June Gage height	June Discharge	July Gage height	July Discharge	August Gage height	August Discharge	September Gage height	September Discharge
1	S	1.3	1.18	.50	1.22	.54	1.22	.68				
2	S	1.6	1.15	.50	1.20	.46	1.22	.68				
3	S	1.3	1.15	.46	1.20	.46	1.22	.68				
4	S	.89	1.13	.46	1.19	.46	1.21	.68				
5	a	.63	1.18	.41	1.17	.40	1.22	.73				
6	a	.58	1.18	.46	1.17	.40	1.22	.73				
7	a	.56	1.20	.50	1.17	.40	a	.74				
8	1.18	.54	1.20	.50	1.16	.36	CLK. STORED S.I.S. NP-123	.75				
9	1.18	.54	1.19	.46	1.16	.36		.76				
10	1.18	.54	1.19	.46	1.16	.36		.76				
11	1.18	.54	1.19	.43	1.16	.36		.77				
12	1.18	.54	1.19	.43	1.17	.40		.77				
13	1.18	.54	1.22	.54	1.18	.43	a	.78				
14	1.19	.58	1.23	.58	1.18	.43	1.22	.77				
15	1.15	.54	1.25	.68	1.19	.46	1.20	.68				
16	1.19	.58	1.25	.68	1.20	.50	1.21	.73				
17	1.20	.63	1.25	.68	1.23	.63	1.22	.77				
18	1.20	.68	1.26	.73	1.24	.68	1.25	.94				
19	1.20	.68	1.28	.84	1.23	.63	1.25	.94				
20	1.20	.68	1.31	1.0	1.22	.58	1.24	.89				
21	1.20	.63	1.31	1.0	1.22	.58						
22	1.19	.58	1.32	1.0	1.25	.73						
23	1.19	.58	1.32	1.0	1.25	.73						
24	1.18	.54	1.32	1.0	a	.73						
25	1.18	.54	1.28	.84		.73						
26	1.19	.58	1.30	.94	CLK. STORED S.I.S. NP-123	.72						
27	1.19	.54	1.25	.68		.71						
28	1.19	.54	1.23	.58		.70						
29	1.18	.50	1.22	.54		.70						
30	1.18	.50	1.23	.58	a	.69						
31	X	X	1.24	.63	X	X						
Total		20.00		20.14		16.32						

Day | Year | Quarter | Fourth | Third | Second | First | Quarter | Computed | Checked

Max. G. H. ____ ft. at ____ Min. G. H. ____ ft. on ____

Max. Dis. ____ Min. Dis. ____

Mean ____

Runoff in inches ____

Runoff in acre-feet ____

Max. ____

Min. ____

PROGRESS REPORT

9-192-a. July 1937

Daily Gage Height, in Feet, and Discharge, in Second-Feet, of CORRAL GULCH ~~River~~ Creek

At ~~Near~~ S4 RANCH NR. RANGELY, COLO. for the Year Ending September 30, 1976.

Drainage Area ..... Square Miles. Water-Stage Recorder CONTINUOUS Ratio 1 : 6

Gage Read to ..... Once / Twice a Day by .....

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

PRELIMINARY DATA SUBJECT TO REVISION

Corral Gulch @ 84 Ranch 1976 Wyr.

File Number { Washington 093262 / District

Used rating table dated #1 OCT. 1 - FEB. 3, 1976 #2 FEB. 4 TO APR. 7, 1976

Gage heights used to half tenths between ..... and ..... hundredths below and tenths above these limits.

Day	October Gage height	October Discharge	November Gage height	November Discharge	December Gage height	December Discharge	January Gage height	January Discharge	February Gage height	February Discharge	March Gage height	March Discharge
1	a	.10	1.16	.19	1.09	.10	1.07	.05	1.03	.01	5	1.3
2	a	.10	1.16	.19	1.09	.10	1.07	.05	1.03	.01	1.22	.30
3	1.13	.14	1.15	.18	1.09	.10	1.08	.06	1.03	.01	1.11	.20
4	1.14	.15	1.15	.18	1.09	.10	1.08	.06	1.03	.01	1.10	.20
5	1.14	.15	1.15	.18	1.08	.09	1.08	.06	1.03	.01	1.10	.20
6	1.13	.14	1.15	.18	1.07	.07	1.08	.06	1.03	.01	1.11	.25
7	1.13	.14	1.14	.16	1.07	.07	1.08	.06	1.03	.01	1.19	.30
8	1.14	.15	1.16	.19	1.06	.06	1.08	.06	1.03	.01	1.24	.40
9	1.14	.15	1.17	.21	1.05	.05	1.08	.06	5	.08	1.13	.10
10	1.14	.15	1.16	.19	1.05	.05	1.08	.06	a	.25	1.06	.12
11	1.13	.14	1.16	.19	1.07	.07	1.07	.05	Flume washed out	.23	a	.14
12	1.13	.14	1.15	.18	1.06	.06	1.07	.05		.21		.18
13	1.15	.18	1.15	.18	1.03	.03	1.07	.05		.19	FLOW BELOW INTAKE	.14
14	1.16	.19	1.15	.18	1.03	.03	1.07	.05		.16		.10
15	1.16	.19	1.14	.14	1.03	.03	1.07	.05		.08		.20
16	1.15	.18	1.14	.12	1.03	.03	1.06	.04		.08		.14
17	1.15	.18	1.15	.18	1.02	.01	1.06	.04		.10	a	.20
18	1.15	.18	1.15	.18	1.02	.01	1.07	.05		.10	5	.84
19	1.14	.16	1.15	.18	1.02	.01	1.07	.05	a	.14	1.10	.32
20	1.14	.16	1.14	.14	1.03	.03	1.07	.05	1.27	.11	1.08	.22
21	1.13	.15	1.14	.14	1.03	.03	1.06	.04	1.23	.10	1.10	.25
22	1.13	.15	1.13	.15	1.04	.03	1.06	.04	1.16	.10	1.10	.22
23	1.17	.21	1.13	.15	1.04	.03	1.05	.03	1.19	.10	1.06	.10
24	1.16	.19	1.13	.15	1.03	.03	1.05	.03	1.18	.12	a	.10
25	1.16	.19	1.11	.12	1.01	0	1.04	.01	1.18	.16	a	.10
26	1.17	.21	1.10	.11	1.00	0	1.05	.03	5	.78	1.17	.47
27	1.17	.21	1.10	.11	1.00	0	1.04	.01	5	1.0	1.10	.22
28	1.17	.21	1.10	.11	0.99	0	a	.01	5	1.0	a	.16
29	1.16	.19	1.10	.11	1.01	0	a	.01	5	1.1	a	.14
30	1.15	.18	1.10	.11	1.01	0	1.03	.01	X	X	a	.12
31	1.17	.21	X	X	1.01	0	1.03	.01	X	X	1.09	.16
Total		5.17		4.80		1.22		1.29		6.27		7.89

Day	April Gage height	April Discharge	May Gage height	May Discharge	June Gage height	June Discharge	July Gage height	July Discharge	August Gage height	August Discharge	September Gage height	September Discharge
1	a	.30	1.14	.19	1.20	.16	a	.06				
2	PLUGGED INTAKE	.40	1.14	.21	1.21	.18	1.09	.03	a	.01		
3		.30	1.13	.21	1.20	.16	1.09	.03				
4		.25	1.13	.21	a	.14	1.08	.01				
5		.20	1.14	.22		.13	1.09	.03				
6		.16	1.15	.24		.12	1.10	.01				
7		.12	1.16	.24		.10	1.11	.03				
8	a	.11	1.18	.26		.09	1.11	.03				
9	1.12	.19	1.14	.16		.09	1.11	.03				
10	1.13	.21	1.14	.16		.10	1.11	.03				
11	1.13	.21	1.12	.16		.10	1.11	.03				
12	1.13	.21	1.11	.18		.10	1.11	.03				
13	1.13	.21	1.10	.19		.11	1.11	.03				
14	1.14	.22	1.10	.19		.11	1.08	.03				
15	1.13	.21	1.10	.19	NO WATER NOT FLOWING	.12	1.05	.02				
16	1.13	.21	1.09	.16		.12	1.04	.01				
17	1.15	.22	1.09	.16		.11	a	.04				
18	1.16	.24	1.08	.14		.10	1.07	.06				
19	1.14	.19	1.10	.16		.10	1.10	.10				
20	1.12	.16	1.11	.18		.09	1.09	.09	a	.01		
21	1.12	.16	1.12	.19		.08	1.07	.06				
22	1.12	.16	1.11	.15		.08						
23	1.13	.16	1.11	.12		.08						
24	1.13	.16	1.20	.19		.09						
25	1.15	.19	1.22	.19		.10						
26	1.16	.21	1.23	.21		.10						
27	1.15	.19	1.21	.18		.10						
28	1.15	.19	1.20	.16		.10						
29	1.15	.19	1.20	.16		.09						
30	1.14	.18	1.22	.19	a	.08						
31	X	X	1.23	.21	X	X						
Total		6.11		5.76		3.23						

Mean
Second-feet per square mile
Runoff in inches
Runoff in acre-feet
Maximum
Minimum

Period Year 19

Quarter | Computed | Checked | Quarter | Computed | Checked | Quarter | Computed | Checked | Quarter | Computed | Checked

Quarter | Disch. applied | Disch. checked | Quarter | Disch. applied | Disch. checked | Quarter | Disch. applied | Disch. checked | Quarter | Disch. applied | Disch. checked

Period Year 19

Mean ..... Max. G. H. ..... ft. at ..... Min. G. H. ..... ft. on ..... Mean G. H. ..... ft.

Bot. G. at 1800 on MAY 18 (G. H. 2.14 ft.) Max. G. H. ..... ft. at ..... on

Bot. G. on ..... (G. H. ..... ft.) Min. G. H. ..... ft. on .....

Sec.-ft. on ..... gage height varies from combination

Min. Disch. ..... Not, from FEB. 14 to ..... of 9" flume plus 12" flume and zero flows 9" flume only.

5° - subtracted day 1 6" gage height - ice affected.

Period Year 19 75

RBSSP PROGRESS REPORT

9-199-a. July 1937

Daily Gage Height, in Feet, and Discharge, in Second-Feet, of YELLOW CR. TRIB. ~~River~~ ~~Creek~~

Near "84 RANCH" COLORADO for the Year Ending September 30, 1976

Drainage Area ..... Square Miles. Water-Stage Recorder CONTINUOUS Ratio 1 : 6

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

YELLOW CR. TRIB.
NR. "84 RANCH, CO.
1976

File Number { Washington 09306
District

Used rating table dated NO. 1

Gage Read to ..... Once / Twice a Day by .....

Gage heights used to half tenths between ..... and ..... hundredths below and tenths above these limits.

Day	October Gage height	October Discharge	November Gage height	November Discharge	December/1975 Gage height	December Discharge	January Gage height	January Discharge	February Gage height	February Discharge	March Gage height	March Discharge
1										0	S	2.5
2										0		0
3										0		0
4			*							0		0
5										0		0
6										0		0
7										0		0
8										0		0
9										0		0
10										0	*	0
11										.80		0
12									1 S	b 2.4		0
13		NO FLOW		NO FLOW		NO FLOW		NO FLOW	2 S	b 1.7		0
14									3 S	b 1.7		0
15							*		a	0		0
16									CLK STOPPED	0		0
17										0	S	b 1.1
18										0	S	b 2.5
19									* a	0		0
20										0		0
21										0		0
22										0		0
23										0		0
24										0		0
25										0		0
26									S	b 2.0	*	0
27									S	3.2		0
28									S	1.8		0
29									S	b 2.5		0
30									X	X	*	0
31			X	X					X	X		0
Total		0		0		0		0		16.1		6.10

Day	April Gage height	April Discharge	May Gage height	May Discharge	June Gage height	June Discharge	July Gage height	July Discharge	August Gage height	August Discharge	September Gage height	September Discharge
1												
2			*									
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13		NO FLOW		NO FLOW		NO FLOW		NO FLOW				
14												
15												
16												
17												
18					*		*					
19												
20												
21					*							
22	*											
23												
24					*							
25												
26			*									
27												
28												
29												
30												
31	X	X			X	X						
Total		0		0		0		0				

Mean Second-feet per square mile
Runoff in inches
Run-off in acre-feet
Maximum
Minimum

Period Year

Quarter | Computed | Checked | Quarter | Computed | Checked | Quarter | Disch. applied | Disch. checked | Quarter | G. H. copied | G. H. checked

Mean Disch. ..... Max. Disch. ..... Min. Disch. ..... Run-off ..... Acre-feet

Per "A" No. Gage Height Record. "B" Ice Effect. * Observation of No Flow.

Drainage Area ..... Sq. Mi. Discharge Sheet. Discharge Estimated.

Water Year 1975

RBOSP PROGRESS REPORT

9-192-a July 1927

Daily Gage Height, in Feet, and Discharge, in Second-Feet, of STAKE SPRINGS DRAW ~~River~~ ~~Creek~~

Near RANGELY, COLO. for the Year Ending September 30, 1976

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

STAKE SPRINGS DRAW
NR RANGELY, COLO.
1976

File Number { Washington 09306[illegible] / District

Used rating table dated No. 1

Drainage Area 26.1 Square Miles. Water-Stage Recorder CONTINUOUS Ratio 1 : 6 Gage Read to ..... Once Twice a Day by PRELIMINARY DATA PUBLISHED TO [illegible] hundredths below and tenths above these limits. Gage heights used to half tenths between ..... and ..... feet

Day	October Gage height	October Discharge	November Gage height	November Discharge	December Gage height	December Discharge	January Gage height	January Discharge	February Gage height	February Discharge	March Gage height	March Discharge
1	a		a		a		a			0	1.15	1.4
2										0		0
3										0		0
4										0		0
5			a							0		0
6										0		0
7	a									0		0
8										0		0
9										0		0
10										0		0
11										0		0
12									S	.04		0
13									S	.01		0
14									S	.34		0
15									S	.25		0
16	a									0		0
17			a							0		0
18			a							0	S	1.2
19										0	S	.73
20										0		0
21										0		0
22										0		0
23										0		0
24										0		0
25										0		0
26									S	.11		0
27									S	.84		0
28									1.16	1.5		0
29									1.15	1.4		0
30			a						X	X		0
31	a		X	X	a				X	X		0
Total		0		0		0		0		4.49		3.33

Day	April Gage height	April Discharge	May Gage height	May Discharge	June Gage height	June Discharge	July Gage height	July Discharge	August Gage height	August Discharge	September Gage height	September Discharge
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31	X	X			X	X						
Total		0		0		0		0				

Mean, Second-feet per square mile
Runoff in inches
Runoff in acre-feet
Maximum
Minimum

Quarter: Fourth / Third / Second / First — Day: Fourth / Third / Second / First — Computed / Checked — Discharge applied / Discharge checked — G.H. equal / G.H. checked — Water Year 197

* - OBSERVATION OF NO FLOW

a - CLOCK STOPPED

b - CLOCK STOPPAGE

S - DISCHARGE SUBMITTED. V - VARIABLE STAGE. DISCHARGE ESTIMATED FOR

"b" - NO GAGE HEIGHT RECORD. "b" - NO EFFECT

Bgn. ft. at ..... on ..... (G. H. ..... (G.). Max. G. H. ..... ft. at ..... on

End. ft. at ..... on ..... (G. H. ..... (G.). Min. G. H. ..... ft. on

Min. Disch. ..... (G. H. ..... (G.). Max. Disch. ..... ft. on

Water Year 1975

RB@PRESS REPORT

9-193-a. Feb. 1935

Daily Gage Height, in Feet, and Discharge, in Second-Feet, of YELLOW CR. TRIB. River or Creek

Near "86 RANCH" COLORADO for the Year Ending September 30, 1976

PRELIMINARY DATA SUBJECT TO REVISION

Drainage Area ..... Square Miles. Water-Stage Recorder CONTINUOUS Ratio 1 : 6 Gage Read to ..... Once / Twice a Day by ..... Gage heights used to half tenths between ... and ... hundredths below and tenths above these limits.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

YELLOW CR. TRIB.
NR "86 RANCH, CO.
1976

File Number { Washington 9220652 / District

Used rating table dated NS-1

PRELIMINARY DATA SUBJECT TO REVISION

Day	October Gage height	October Discharge	November Gage height	November Discharge	December/75 Gage height	December/75 Discharge	January Gage height	January Discharge	February Gage height	February Discharge	March Gage height	March Discharge
1										0	S	2.5
2										0		0
3										0		0
4										0		0
5										0		0
6										0		0
7										0		0
8										0		0
9										0		0
10										0		0
11									a	.80		0
12									S	b 2.4		0
13									S	b 1.7		0
14									S	b 1.7		0
15									a	0		0
16		NO FLOW		NO FLOW		NO FLOW		NO FLOW		0		0
17									CLK STOPPED	0	S	b 1.1
18										0	S	b 2.5
19									a	0		0
20										0		0
21										0		0
22										0		0
23										0		0
24										0		0
25										0		0
26									S	b 2.0		0
27									S	3.0		0
28									S	1.5		0
29									S	b 2.5		0
30			X	X					X	X		0
31			X	X					X	X		0
Total		0		0		0		0		16.1		6.10

Day	April Gage height	April Discharge	May Gage height	May Discharge	June Gage height	June Discharge	July Gage height	July Discharge	August Gage height	August Discharge	September Gage height	September Discharge
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16		NO FLOW		NO FLOW								
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31	X	X										
Total		0		0								

Mean ..... Sec.-ft. per square mile

Runoff in inches ..... Depth in acre-feet

Maximum .....

Minimum .....

PRELIMINARY DATA SUBJECT TO REVISION

PRELIMINARY DATA SUBJECT TO REVISION

Fourth ..... Third ..... Second ..... First ..... Quarter ..... Computed ..... Checked

Fourth ..... Third ..... Second ..... First ..... Quarter ..... Disch. applied ..... Disch. checked

Fourth ..... Third ..... Second ..... First ..... Quarter ..... G.H. copied ..... G.H. checked

Period ..... Year 19

PRELIMINARY DATA SUBJECT TO REVISION

9-192-a. July 1937

Daily Gage Height, in Feet, and Discharge, in Second-Feet, of DUCK ~~River~~ Creek

At ~~Near~~ UPPER STA. NR. "84 RANCH", COLO for the Year Ending September 30, 1976

Drainage Area 39.1 Square Miles. Water-Stage Recorder CONTINUOUS Ratio 1 : 6

Gage Read to ____ Once/Twice a Day by ____

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

PRELIMINARY DATA SUBJECT TO REVISION

DUCK CR @ UPPER STA. 1976

File Number { Washington 09306225 / District ____

Used rating table dated No. 1

Gage heights used to half tenths between ____ and ____ feet; hundredths below and tenths above these limits.

Day	October Gage height	October Discharge	November Gage height	November Discharge	December Gage height	December Discharge	January Gage height	January Discharge	February Gage height	February Discharge	March Gage height	March Discharge
1										0	5	0.70
2										0		0
3										0		0
4										0		0
5			*							0		0
6										0		0
7										0		0
8										0		0
9									*	0		0
10										0	*	0
11										0		0
12									1/28 b	.60		0
13									2/25 b	.30		0
14									3/10 b	.12		0
15										0		0
16							*			0		0
17		No Flow		No Flow		No Flow		No Flow		0		0
18										0	* 5	1.5
19									*	0	5	.14
20										0		0
21										0		0
22										0		0
23										0		0
24										0	5	.04
25										0	5	.01
26										0		0
27										0		0
28										0		0
29										0		0
30									X	X	*	0
31									X	X		0
Total		0		0		0		0		1.02		2.39

Day	April Gage height	April Discharge	May Gage height	May Discharge	June Gage height	June Discharge	July Gage height	July Discharge	August Gage height	August Discharge	September Gage height	September Discharge
1		0		0								
2				0								
3				0								
4				0								
5				0								
6				0								
7				0								
8				0								
9				0								
10				0								
11				0								
12				0								
13				0								
14				0								
15				0								
16				0								
17				0								
18				0								
19				0			*					
20			5	.31								
21				0	*							
22	*			0								
23				0								
24				0								
25				0								
26			*	0								
27				0								
28				0								
29				0								
30				0								
31	X	X		0	X	X						
Total		0		0.31		0		0				

Mean
Second-feet per square mile
Runoff in inches
Runoff in acre-feet
Maximum
Minimum

Max. G. H. ____ ft. on ____
Min. G. H. ____ ft. on ____
Max. Disch. ____ Sec.-ft. on ____
Min. Disch. ____ Sec.-ft. on ____

S - MISCHARGE SUBMERGED. V - VANES. SHIFT. DISCHARGE ESTIMATED. EXP "a" - No GAGE HEIGHT RECORD. "b" - ICE EFFECT.
X - ICE CONDITION OF NO FLOW

Quarter: Computed ____ Checked ____
Quarter: Dsch. applied ____ Dsch. checked ____
Quarter: G. H. applied ____ G. H. checked ____

RECORD PROGRESS REPORT

9-193-a July 1937

Daily Gage Height, in Feet, and Discharge, in Second-Feet, of DUCK ~~River~~ Creek

Near "84" RANCH, COLO. for the Year Ending September 30, 1974

Drainage Area 50 Square Miles. Water-Stage Recorder CONTINUOUS Ratio 1 : 6

Gage Read to ____ Once/Twice a Day by ____

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

DUCK CR. NR. 84 RANCH 1976

File Number Washington 09306[illegible] District ____

Used rating table dated NO. 1

Gage heights used to half tenths between ____ and ____ hundredths below and tenths above these limits.

Day	October Gage height	October Discharge	November Gage height	November Discharge	December Gage height	December Discharge	January Gage height	January Discharge	February Gage height	February Discharge	March Gage height	March Discharge
1										0	S	0.76
2										0	S	.07
3										0		0
4										0		0
5										0		0
6										0		0
7										0		0
8										0		0
9										0		0
10										0		0
11										0		0
12										.05		0
13										.03		0
14									a	.01		0
15									1.10	.65		0
16		No Flow		No Flow		No Flow		No Flow	S	.27		0
17										0		0
18										0	S	2.1
19										0	S	.51
20										0		0
21										0		0
22										0	S	.04
23										0	S	.14
24										0	S	.28
25										0	S	.14
26										0		0
27										0		0
28									S	3.9		0
29									S	2.9		0
30									X	X		0
31									X	X		0
Total		0		0		0		0		7.81		4.04

Day	April Gage height	April Discharge	May Gage height	May Discharge	June Gage height	June Discharge	July Gage height	July Discharge	August Gage height	August Discharge	September Gage height	September Discharge
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13		No Flow		No Flow		No Flow						
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31	X	X			X	X						
Total		0		0		0						

Mean
Second-feet per square mile
Runoff in inches
Runoff in acre-feet
Maximum
Minimum

Quarter | Computed | Checked | Published | Third | Fourth | Quarter | Dach applied | Dach checked | Fourth | Third | Quarter | G.H. copied | G.H. checked | Fourth | Third | Second | First | Quarter | Computed | Checked | Published | Third | Fourth | Second | First | Quarter | Dach applied | Dach checked | Fourth | Third | Second | First | Quarter | G.H. copied | G.H. checked

Year 19 ____ Year 19 ____

Rec. ft. at 1,[illegible] on Feb. 28, (G. H. 1.67 ft.); Max. G. H. 1.62 ft. at 1,[illegible] on Feb. 28.

Rec. ft. on ____ (G. H. ____ ft.); Min. G. H. ____ ft. on ____

1/2 S: DISCHARGE SUSPENDED. V: VARIABLE. SHIFT. PROCEDURE ESTIMATED FOR "A" - 22 GAGE HEIGHT RECORD. "b" ICE EFFECT.

X: DISCONTINUED AT NO FLOW

RECORD | COMPUTATIONS | REPORT

9-199-a July 1937

Daily Gage Height, in Feet, and Discharge, in Second-Feet, of Yellow ~~River~~ Creek

Near White River City, Colo for the Year Ending September 30, 1976

Drainage Area ..... Square Miles. Water-Stage Recorder ..... Ratio 1 : 6

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

Yellow Creek nr White River City
09326255 File Number { Washington ..... District .....

Used rating table dated .....

Gage Read to ..... Once / Twice a Day by ..... Gage heights used to half tenths between ..... and ..... hundredths below and tenths above these limits.

Day	October Gage height	October Discharge	November Gage height	November Discharge	December Gage height	December Discharge	January Gage height	January Discharge	February Gage height	February Discharge	March Gage height	March Discharge
1	4.71	1.2	4.83	2.9	5.30	1.6	a	1.5	4.74	1.2	a	3.7
2	4.71	1.1	4.79	2.6	5.11	1.8		.99	4.75	1.3		3.8
3	4.72	1.2	4.78	2.5	5.10	1.8		1.0	4.75	1.3		3.9
4	4.72	1.1	4.78	2.5	5.15	1.7		1.0	4.75	1.3		3.5
5	4.71	1.1	4.77	2.4	5.27	1.7		1.0	4.75	1.4		3.2
6	4.71	1.1	4.78	2.5	5.40	1.8		.95	a	1.5		3.2
7	4.73	1.1	4.78	2.5	5.20	1.8		1.1	a	1.5		3.2
8	4.74	1.2	4.82	2.8	5.15	1.9		1.2	a	1.6		3.1
9	4.73	1.1	4.80	2.7	4.82	1.8		1.1	a	1.6		3.1
10	4.73	1.1	4.78	2.7	4.85	1.8		1.0	4.84	1.7		3.0
11	4.72	.95	4.76	2.5	4.80	1.9		1.2	4.87	1.8		3.1
12	4.72	.98	4.74	2.4	a	1.9	Frozen	1.1	4.88	1.8		3.1
13	4.74	1.0	4.77	2.5	a	1.9		1.0	5.40	2.0		3.1
14	4.75	1.1	4.77	2.6	a	1.3		1.2	5.37	2.0		3.1
15	4.75	1.0	4.82	2.7	5.07	1.0		1.2	5.45	2.1		3.1
16	4.75	1.1	4.76	2.7	4.97	1.7	Intakes	1.2	5.15	2.2		3.0
17	4.75	1.2	4.80	2.7	4.84	1.6		1.2	4.92	2.0		3.1
18	4.75	1.3	4.80	2.4	4.74	1.5		1.2	4.93	2.4		3.0
19	4.74	1.4	4.73	2.4	4.73	1.5		1.2	4.93	2.4		3.0
20	4.74	1.5	4.80	1.8	4.74	1.5		1.3	4.86	1.9	a	3.0
21	4.74	1.6	5.05	1.8	4.76	1.5		1.3	4.90	2.2	a	2.8
22	4.77	1.8	4.75	2.0	4.85	1.5		1.5	4.75	1.2	a	2.8
23	4.81	2.1	4.77	2.0	4.96	1.5		1.5	4.85	1.8	a	2.8
24	4.75	1.8	4.76	2.0	4.90	1.5		1.6	4.85	1.8	a	2.7
25	4.73	1.7	4.88	2.0	5.10	1.7		1.3	4.95	2.6	4.82	1.7
26	4.93	2.5	4.70	1.4	5.29	1.7		1.4	5.05	3.5	4.80	1.6
27	4.83	2.6	5.25	1.7	4.78	1.7		1.3	a	3.5	4.76	1.4
28	4.83	2.7	5.12	2.0	4.70	1.6		1.5	a	3.5	4.74	1.3
29	4.78	2.3	4.83	1.6	4.77	1.4		1.5	a	3.6	4.71	1.2
30	4.77	2.3	4.92	2.0	4.87	1.7		1.6			4.76	1.5
31	5.02	5.1			4.78	1.7	a	1.6			4.81	1.8
Total		49.4		69.3		56.3		38.6		58.7		85.9

Day	April Gage height	April Discharge	May Gage height	May Discharge	June Gage height	June Discharge	July Gage height	July Discharge	August Gage height	August Discharge	September Gage height	September Discharge
1	4.82	1.9	4.80	1.6	4.78	1.2	4.63	.56	5.15	7.0		
2	4.82	1.9	4.80	1.6	4.78	1.2	4.63	.56	4.85	1.6		
3	4.84	2.1	4.81	1.7	4.78	1.2	4.62	.53	4.75	1.0		
4	4.85	2.2	4.80	1.6	4.77	1.2	4.62	.50	4.68	.73		
5	4.89	2.6	4.82	1.7	4.75	1.1	4.62	.50	4.71	.83		
6	4.90	2.7	4.84	1.8	4.74	1.1	4.61	.47	4.69	.80		
7	4.85	2.3	4.84	1.8	4.75	1.1	4.59	.43	4.67	.73		
8	4.85	2.3	4.85	1.8	4.73	1.0	4.58	.40	4.67	.76		
9	4.83	2.2	4.85	1.8	4.73	1.0	4.58	.40	4.70	.88		
10	4.80	2.1	4.84	1.7	4.71	.93	4.57	.38	4.72	.98		
11	4.80	1.9	4.84	1.7	4.71	.93	4.56	.36	4.72	1.00		
12	4.82	2.0	4.63	1.7	4.73	1.0	4.55	.34				
13	4.83	2.1	4.82	1.6	4.72	.98	4.51	.28				
14	4.82	2.0	4.80	1.5	4.80	1.4	4.51	.28				
15	4.83	2.0	4.80	1.5	4.78	1.2	4.51	.28				
16	4.83	2.0	4.80	1.4	4.76	1.1	4.52	.28				
17	4.87	2.3	4.80	1.4	4.77	1.2	4.54	.31				
18	4.87	2.3	4.78	1.3	4.76	1.2	4.58	.36				
19	4.85	2.2	4.80	1.4	4.74	1.0	4.54	.31				
20	4.83	2.0	4.83	1.6	4.72	.93	4.52	.43				
21	4.82	1.9	4.83	1.6	4.70	.84	4.50	.25				
22	4.82	1.9	4.83	1.6	4.77	1.2	4.48	.27				
23	4.80	1.8	4.83	1.6	4.78	1.2	4.47	.23				
24	4.78	1.6	4.86	1.7	4.79	1.2	4.47	.23				
25	4.79	1.7	4.84	1.6	4.72	.93	4.48	.25				
26	4.83	1.9	4.82	1.5	4.68	.73	4.49	.27				
27	4.83	1.9	4.80	1.4	4.68	.73	4.49	.27				
28	4.81	1.7	4.79	1.3	4.67	.70	4.49	.28				
29	4.81	1.7	4.78	1.2	4.66	.67	4.53	.34				
30	4.80	1.7	4.80	1.4	4.64	.93	4.53	.34				
31			4.79	1.3			4.57	.41				
Total		60.9		48.4		31.1		11.1				

Mean
Second-feet per square mile
Runoff in inches
Runoff in acre-feet
Maximum
Minimum

Max. Discharge
Min. Discharge
Date of Year

Hun.-ft. at ..... on ..... (G. H. ..... ft.) Max. G. H. ..... ft. at ..... on .....
Hun.-ft. on ..... (G. H. ..... ft.) Min. G. H. ..... ft. on .....

Day | Fourth | Third | Second | First | Quarter | Computed | Checked | Fourth | Third | Second | First | Quarter | Dsch. applied | Dsch. checked | Fourth | Third | Second | First | Quarter | G. H. copied | G. H. checked | Period | Year

UNITED STATES DEPARTMENT OF INTERIOR
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

09306230 Stake Springs

1976 WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PRELIMINARY DATA SUBJECT TO REVISION

	CONDUCTANCE			TEMPERATURE °C								
		MARCH			MARCH							
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	1350	---	---	3.0	0.0	---	---	---	---	---	---	---
19	746	---	---	0.5	0.0	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---
YEAR												

RBCSP PROGRESS REPORT

PROCESS DATE IS 09-07-76

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

STATION NUMBER 09306235 CORRAL GULCH BELOW WATER GULCH, NR RANGELY, CO. STREAM SOURCE AGENCY USGS
LATITUDE 395422 LONGITUDE 1083156 DRAINAGE AREA 8.61 DATUM 6980.00 STATE 08 COUNTY 103

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PRELIMINARY DATA SUBJECT TO REVISION

	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	1060	965	1020									
2	1040	---	---									
3	998	914	965									
4	970	887	939									
5	943	874	920									
6	929	856	902									
7	938	836	880									
8	860	794	834									
9	840	794	827									
10	844	794	829									
11	844	801	834									
12	844	794	828									
13	840	790	825									
14	828	769	806									
15	809	772	798									
16	805	763	792									
17	801	759	788									
18	798	756	782									
19	786	763	776									
20	779	759	772									
21	776	743	764									
22	772	712	752									
23	709	255	307									
24	683	---	---									
25	---	---	---									
26	---	---	---									
27	---	---	---									
28	---	---	---									
29	---	---	---									
30	---	---	---									
31	---	---	---									
MONTH	---	---	---									

RBOSP PROGRESS REPORT

PROCESS DATE IS 09-07-76

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

STATION NUMBER 09306235 CORRAL GULCH BELOW WATER GULCH, NR RANGELY, CO. STREAM SOURCE AGENCY USGS
LATITUDE 395422 LONGITUDE 1083156 DRAINAGE AREA 8.61 DATUM 6980.00 STATE 08 COUNTY 103

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PRELIMINARY DATA SUBJECT TO REVISION

	FEBRUARY			MARCH			APRIL			MAY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1				---			149	---	---	475	460	467
2				---			147	---	---	490	470	483
3				258			166	---	---	504	488	497
4				---			144	119	123	513	475	497
5				---			260	117	155	496	474	485
6				---			300	---	---	495	469	484
7				---			440	320	366	506	466	489
8				---			411	---	---	510	473	494
9				---			462	---	---	503	469	493
10				---			---	---	---	512	480	497
11				---			---	---	---	509	481	500
12				---			---	---	---	519	496	506
13				---			---	---	---	519	498	507
14				---			---	---	---	543	432	513
15				---			---	---	---	535	---	---
16				---			---	---	---	430	---	---
17				---			---	---	---	445	---	---
18				---			---	---	---	450	---	---
19				---			---	---	---	450	432	443
20				---			---	---	---	477	445	458
21				---			---	---	---	467	448	457
22				---			---	---	---	453	433	445
23				---			---	---	---	437	416	428
24				175			---	---	---	425	398	413
25				---			---	---	---	415	357	399
26				---				---	---	399	386	395
27				---			---	---	---	393	369	381
28				---			421	413	139	382	357	367
29				---			439	427	434	358	342	348
30				---			457	445	452	440	292	333
31				146			---	---	---	333	306	318
MONTH				---			---	---	---	543	292	448

BBOSP PROGRESS REPORT

PROCESS DATE IS 09-07-76

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

STATION NUMBER 09306235 CORRAL GULCH BELOW WATER GULCH, NR RANGELY, CO. STREAM SOURCE AGENCY USGS
LATITUDE 395422 LONGITUDE 1083156 DRAINAGE AREA 8.61 DATUM 6980.00 STATE 08 COUNTY 103

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PRELIMINARY DATA SUBJECT TO REVISION

	JUNE			JULY			AUGUST			SEPTEMBER		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	321	299	303	393	301	366						
2	369	272	319	394	---	---						
3	378	352	365	390	---	---						
4	376	352	365	395	---	---						
5	374	352	365	391	---	---						
6	367	349	358	384	---	---						
7	371	345	358	377	306	352						
8	366	237	325	382	---	---						
9	360	---	---	381	---	---						
10	382	239	320	382	---	---						
11	366	293	342	379	260	347						
12	378	340	353	387	300	360						
13	360	195	337	393	296	370						
14	372	---	---	385	362	371						
15	752	336	359	386	358	368						
16	820	375	563	378	358	367						
17	671	390	511	394	353	370						
18	1230	406	663	388	342	366						
19	1520	410	809	400	356	369						
20	1410	460	814	387	349	365						
21	1450	471	843	381	345	358						
22	1500	557	804	---	---	---						
23	1410	527	791	---	---	---						
24	1410	466	789	---	---	---						
25	1290	458	764	---	---	---						
26	1550	484	853	---	---	---						
27	1660	456	881	---	---	---						
28	1840	464	920	---	---	---						
29	1670	461	812	---	---	---						
30	1300	299	519	---	---	---						
31	---	---	---	---	---	---						
MONTH	1840	195	564	---	---	---						
YEAR												

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

09306237 Dry Fork near Rangely

PRELIMINARY DATA SUBJECT TO REVISION

1976 WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

CONDUCTANCE

DAY	MARCH MAX	MARCH MIN	MARCH MEAN	APRIL MAX	APRIL MIN	APRIL MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	156	50	51	---	---	---	---	---	---
2	---	---	---	160	50	70	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	126	50	53	---	---	---	---	---	---	---	---	---
23	176	50	68	---	---	---	---	---	---	---	---	---
24	120	50	70	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---
YEAR												

RBOSP PROGRESS REPORT

PROCESS DATE IS 09-07-76

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

STATION NUMBER 09306240 BOX ELDER GULCH NEAR RANGELY, CO. STREAM SOURCE AGENCY USGS
LATITUDE 395318 LONGITUDE 1083140 DRAINAGE AREA 9.21 DATUM 6955.00 STATE 08 COUNTY 103

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PRELIMINARY DATA SUBJECT TO REVISION

	FEBRUARY			MARCH			APRIL			MAY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1										---	---	---
2										769	736	749
3										778	679	747
4										756	698	719
5										712	676	695
6										698	637	678
7										756	621	696
8										720	676	693
9										686	631	661
10										643	578	608
11										578	534	547
12										541	476	515
13										520	488	506
14										513	486	502
15										769	382	585
16										782	---	---
17										774	---	---
18										778	---	---
19										778	720	752
20										774	---	---
21										778	---	---
22										808	---	---
23										824	---	---
24										836	---	---
25										839	---	---
26										818	---	---
27										780	---	---
28										789	---	---
29										759	---	---
30										696	---	---
31										683	---	---
MONTH										839	---	---

RBOSP PROGRESS REPORT

PROCESS DATE IS 09-07-76

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

STATION NUMBER 09306240 BOX ELDER GULCH NEAR RANGELY, CO. STREAM SOURCE AGENCY USGS
LATITUDE 395318 LONGITUDE 1083140 DRAINAGE AREA 9.21 DATUM 6955.00 STATE 08 COUNTY 103

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PRELIMINARY DATA SUBJECT TO REVISION

	JUNE			JULY			AUGUST			SEPTEMBER		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	673											
2	656											
3	669											
4	626											
5	662											
6	695											
7	---											
8	---											
9	---											
10	---											
11	---											
12	---											
13	---											
14	---											
15	---											
16	---											
17	---											
18	---											
19	---											
20	---											
21	---											
22	---											
23	---											
24	---											
25	---											
26	---											
27	---											
28	---											
29	---											
30	---											
31	---											
MONTH	---											
YEAR												

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

09306241 Box Elder Gulch Trib nr Rangely

PRELIMINARY DATA SUBJECT TO REVISION

1976 WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

SPECIFIC CONDUCTANCE

	FEBRUARY			MARCH			APRIL			MAY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	160	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	178	176	177	---	---	---	---	---	---
19	---	---	---	180	177	177	---	---	---	---	---	---
20	---	---	---	176	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	160	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---
YEAR												

RBOSP PROGRESS REPORT

PROCESS DATE IS 09-07-76

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

STATION NUMBER 09306242 CORRAL GULCH NEAR RANGELY, CO. STREAM SOURCE AGENCY USGS
LATITUDE 395513 LONGITUDE 1082820 DRAINAGE AREA 31.60 DATUM 6580.00 STATE 08 COUNTY 103

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PRELIMINARY DATA SUBJECT TO REVISION

	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	1230	1170	1210	1230	1180	1210	---	---	---	---	---	---
2	1400	1130	1250	1210	1170	1200	---	---	---	---	---	---
3	1290	1250	1270	1210	1160	1190	---	---	---	---	---	---
4	1280	1250	1270	1210	1180	1200	---	---	---	---	---	---
5	1280	1240	1270	1210	1180	1200	---	1790	---	---	---	---
6	1290	1230	1260	1210	1180	1200	---	---	---	---	---	---
7	1810	1230	1360	1200	1180	1200	---	---	---	---	---	---
8	1410	1260	1320	1210	1190	1200	---	---	---	---	---	---
9	1300	1250	1290	1230	1180	1210	---	---	---	1280	1220	1250
10	1300	1270	1290	1210	1170	1190	---	---	---	1310	1210	1250
11	1290	1260	1280	1210	1180	1190	---	---	---	1320	1280	1310
12	1300	1260	1280	2340		[illegible]	---	---	---	1340	1290	1320
13	1320	1270	1290	1480	---	---	---	---	---	1340	1290	1320
14	1290	1270	1280		---	---	---	---	---	1320	1290	1310
15	1300	1260	1290	---	---	---	---	---	---	1320	1290	1310
16	1290	1270	1290	---	---	---	---	---	---	1310	1260	1290
17	1290	1250	1280	---	---	---	---	---	---	1310	1280	1300
18	1280	1250	1270	---	---	---	---	---	---	1300	1280	1300
19	1260	1230	1250	---	---	---	---	---	---	1300	1250	1290
20	1270	1190	1240	---	---	---	---	---	---	1300	1270	1290
21	1270	1220	1260	---	---	---	---	---	---	1300	1270	1280
22	1280	1200	1260	---	---	---		---	---	1290	1240	1280
23	1310	1250	1290	---	---	---		[illegible]		1290	1260	1280
24	1360	1290	1310	---	---	---	---		---	1300	1220	1260
25	1360	1300	1330	---	---	---	---	---	---	1250	1220	1240
26	1370	1320	1350	---	---	---	---	---	---	1240	---	---
27	1370	1340	1350	---	---	---	---	---	---	---	---	---
28	1360	1330	1350	---	---	---	---	---	---	---	---	---
29	1350	1320	1340	---	---	---	---	---	---	---	---	---
30	1350	1170	1320	---	---	---	---	---	---	---	---	---
31	1370	1240	1300	---	---	---	---	---	---	---	---	---
MONTH	1810	1130	1290	---	---	---	---	---	---	---	---	---

RBCSP PROGRESS REPORT

PROCESS DATE IS 09-07-76

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

STATION NUMBER 09306242 CORRAL GULCH NEAR RANGELY, CO. STREAM SOURCE AGENCY USGS
LATITUDE 395513 LONGITUDE 1082820 DRAINAGE AREA 31.60 DATUM 6580.00 STATE 08 COUNTY 103

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PRELIMINARY DATA SUBJECT TO REVISION

	FEBRUARY			MARCH			APRIL			MAY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1							---	---	---	1290	1260	1270
2							---	---	---	1280	1230	1260
3							---	---	---	1260	1220	1250
4							---	---	---	1270	1190	1220
5							---	---	---	1250	1200	1220
6							---	---	---	1260	1190	1210
7							---	---	---	1320	1210	1230
8							---	---	---	1390	1210	1250
9							1230	1170	1190	1260	1190	1220
10							1230	1190	1210	1310	1180	1200
11							1270	1210	1230	1270	1140	1200
12							1260	1230	1250	1200	1170	1180
13							1290	1250	1260	1230	1090	1120
14							1310	1260	1280	1180	998	1070
15							1320	---	---	1040	935	968
16							---	---	---	926	860	891
17							---	---	---	869	789	829
18							---	---	---	839	772	805
19							---	---	---	814	760	782
20							---	---	---	828	735	761
21							---	---	---	1160	746	948
22							---	---	---	1140	1050	1090
23							1340	---	---	1060	942	982
24							1330	1290	1310	959	729	846
25							1340	1300	1310	1470	722	948
26							1390	1210	1320	1220	1120	1170
27							1340	1280	1300	1280	1150	1200
28							1300	1260	1280	1420	1200	1290
29							1340	1250	1300	1430	1240	1310
30							1330	1260	1300	1380	1260	1300
31							---	---	---	1440	1240	1330
MONTH							---	---	---	1470	722	1110

REOSP PROGRESS REPORT

PROCESS DATE IS 09-07-76

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

STATION NUMBER 09306242 CORRAL GULCH NEAR RANGELY, CO. STREAM SOURCE AGENCY USGS
LATITUDE 395513 LONGITUDE 1082820 DRAINAGE AREA 31.60 DATUM 6580.00 STATE 08 COUNTY 103

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PRELIMINARY DATA SUBJECT TO REVISION

	JUNE			JULY			AUGUST			SEPTEMBER		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	1500	1290	1380	1300	1230	1260						
2	1540	1360	1440	1260	1230	1250						
3	1540	---	---	1300	1220	1260						
4	1570	1450	1510	1280	1250	1270						
5	1620	1530	1560	1280	1250	1270						
6	1640	1520	1590	1330	1230	1280						
7	1660	1570	1610	1340	1270	1300						
8	1690	1570	1640	1340	1280	1320						
9	1680	1550	1610	1340	1280	1320						
10	1610	1500	1560	1370	1300	1340						
11	1660	1500	1560	1370	1330	1350						
12	1600	1530	1550	1420	1320	1370						
13	1540	1310	1510	1460	1120	1360						
14	1640	1270	1510	1470	1060	1380						
15	1460	1170	1410	1460	1130	1410						
16	1410	1140	1230	1510	1180	1370						
17	1460	1180	1390	---	1230	---						
18	1380	1310	1360	1870	1280	1440						
19	1360	1290	1330	1400	1320	1350						
20	1350	1280	1310	1370	1110	1330						
21	1330	1250	1290	1370	1040	1320						
22	1600	1240	1330	---	---	---						
23	1320	1230	1280	---	---	---						
24	1240	1160	1210	---	---	---						
25	1200	1110	1160	---	---	---						
26	1200	1140	1170	---	---	---						
27	1210	1130	1180	---	---	---						
28	1230	1170	1200	---	---	---						
29	1230	874	1180	---	---	---						
30	1250	1150	1200	---	---	---						
31	---	---	---	---	---	---						
MONTH	1690	874	1390	---	---	---						
YEAR												

RBOSP PROGRESS REPORT

PROCESS DATE IS 09-07-76

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

STATION NUMBER 09306244 CORRAL GULCH AT 84 RANCH, CO. STREAM SOURCE AGENCY USGS
LATITUDE 395602 LONGITUDE 1082535 DRAINAGE AREA DATUM 6366.00 STATE 08 COUNTY 103

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PRELIMINARY DATA SUBJECT TO REVISION

	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1				---	---	---	1790	1730	1770	1760	1730	1760
2				---	---	---	1820	1750	1780	---	---	---
3				---	---	---	1810	1750	1780	---	---	---
4				---	---	---	1810	1730	1780	---	---	---
5				---	---	---	1780	1740	1760	---	---	---
6				2680	2460	2590	---	---	---	---	---	---
7				2580	2470	2540	---	---	---	---	---	---
8				2430	2380	2410	---	---	---	---	---	---
9				2310	2230	2270	---	---	---	---	---	---
10				2180	2110	2140	---	---	---	---	---	---
11				2030	1980	2000	---	---	---	---	---	---
12				---	---	---	---	---	---	---	---	---
13				---	---	---	---	---	---	---	---	---
14				---	---	---	---	---	---	---	---	---
15				---	---	---	---	---	---	---	---	---
16				---	---	---	---	---	---	1750	1730	1740
17				---	---	---	---	---	---	1780	1700	1750
18				1810	1790	1790	---	---	---	1760	1700	1750
19				1880	1790	1810	---	---	---	1760	1710	1750
20				1930	1760	1840	---	---	---	1760	1710	1750
21				1870	1780	1820	---	---	---	1760	1690	1740
22				1920	1740	1830	---	---	---	1770	1690	1730
23				1870	1780	1820	---	---	---	1740	1700	1730
24				1890	1770	1820	1730	1680	1710	1740	1700	1730
25				1890	1750	1800	1760	1660	1720	1750	1700	1730
26				1910	1810	1840	1790	1690	1740	---	1720	---
27				1810	1770	1800	1770	1690	1750	1750	1710	1730
28				1800	1700	1760	1800	1640	1750	1730	1690	1720
29				1850	1780	1810	1830	1700	1760	1810	1690	1750
30				1850	1760	1810	1800	1710	1750	1770	1700	1730
31				---	---	---	1760	1690	1730	1710	1670	1710
MONTH				---	---	---	---	---	---	---	---	---

RBOSP PROGRESS REPORT

PROCESS DATE IS 09-07-76

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

STATION NUMBER 09306244 CORRAL GULCH AT 84 RANCH, CO. STREAM SOURCE AGENCY USGS
LATITUDE 395602 LONGITUDE 1082535 DRAINAGE AREA DATUM 6366.00 STATE 08 COUNTY 103

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PRELIMINARY DATA SUBJECT TO REVISION

	FEBRUARY			MARCH			APRIL			MAY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	1720	1020	1610	1550	188	795	---	---	---	1770	1670	1730
2	1710	1690	1710	892	509	716	---	---	---	1740	1650	1710
3	1720	1600	1700	1810	887	1270	---	---	---	1750	1640	1690
4	1750	1690	1720	1810	1530	1650	---	---	---	2040	1590	1780
5	1740	1660	1700	1660	1490	1590	---	---	---	2010	1910	1960
6	1740	95	1440	1650	1400	1540	---	---	---	1980	---	---
7	1690	474	1570	1590	1260	1390	---	---	---	1930	1320	1640
8	1740	1660	1700	---	---	---	---	---	---	---	1250	---
9	1750	233	981	---	---	---	---	---	---	2890	1210	1450
10	1390	676	1130	---	---	---	---	---	---	---	1240	---
11	1390	422	1050	---	---	---	---	---	---	---	1220	---
12	1400	232	915	---	---	---	---	---	---	---	---	---
13	1710	347	1110	---	---	---	---	---	---	1990	1570	920
14	1780	438	---	---	---	---	---	---	---	---	1850	---
15	1060	990	1030	---	---	---	1650	1340	1460	---	1910	---
16	1040	1010	1020	---	---	---	1400	1130	1240	---		---
17	1160	876	1050	---	---	---	1330	1130	1210	---		---
18	1290	898	1130	---	---	---	1430	1030	1240	---		---
19	1810	1070	1380	---	---	---	1290	1170	1230	---		---
20	1890	1420	1550	---	---	---	1480	1230	1310	---		---
21	1790	1660	1720	---	---	---	1580	1230	1390	---		---
22	1810	1520	1670	---	---	---	1590	1260	1390	---	1340	---
23	1680	1520	1620	---	---	---	1670	1260	1440	1450	1110	1290
24	1660	1580	1630	---	---	---	1690	1310	1430	1640	1270	1470
25	1660	1410	1550	---	---	---	1840	1350	1480	---	1220	---
26	1590	419	1280	---	---	---	1800	1400	1680	---	932	---
27	1560	334	1130	---	---	---	1800	1520	1690	---	867	---
28	1520	1220	1440	---	---	---	1770	1410	1630	1060	956	1030
29	1660	203	1160	---	---	---	1860	1390	1640	1080	940	1020
30	---	---	---	---	---	---	1810	1700	1770	1080	972	1040
31	---	---	---	---	---	---	---	---	---	---	880	---
MONTH	1890	95	1380	---	---	---	---	---	---	---		---

RBOSP PROGRESS REPORT

PROCESS DATE IS 09-07-76

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

STATION NUMBER 09306244 CORRAL GULCH AT 84 RANCH, CO. STREAM SOURCE AGENCY USGS
LATITUDE 395602 LONGITUDE 1082535 DRAINAGE AREA DATUM 6366.00 STATE 08 COUNTY 103

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PRELIMINARY DATA SUBJECT TO REVISION

	JUNE			JULY			AUGUST			SEPTEMBER		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	908	---	2660	1760	2360						
2	1100	880	1010	2510	2390	2460						
3	1900	948	1350	2530	2470	2510						
4	1960	1780	1870	2630	2520	2580						
5	1980	1780	1860	2690	2600	2650						
6	1900	1740	1820	2750	2610	2720						
7	1850	1720	1790	2830	2740	2800						
8	1900	1680	1810	2930	2840	2880						
9	1940	1730	1830	3060	2960	3020						
10	---	1720	---	3140	3080	3120						
11	1920	1830	1890	3220	3140	3210						
12	1950	1850	1910	3320	3180	3280						
13	1960	1800	1920	3360	1910	2860						
14	---	1890	---	2220	1880	2010						
15	---	1880	---	2230	1910	2080						
16	---	---	---	2190	1960	2090						
17	---	---	---	2120	1890	2040						
18	---	---	---	1990	1790	1920						
19	---	---	---	2040	1780	1910						
20	---	---	---	1950	1750	1890						
21	---	---	---	1940	1650	1810						
22	---	---	---	1880	1700	1820						
23	---	---	---	---	---	---						
24	---	---	---	---	---	---						
25	1980	1750	1910	---	---	---						
26	2000	1570	1850	---	---	---						
27	2040	---	---	---	---	---						
28	---	---	---	---	---	---						
29	---	---	---	---	---	---						
30	2480	---	---	---	---	---						
31	---	---	---	---	---	---						
MONTH	---	---	---	---	---	---						
YEAR												

RBOSP PROGRESS REPORT

PROCESS DATE IS 09-07-76

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

STATION NUMBER 09306255 YELLOW CREEK NEAR WHITE RIVER, CO. STREAM SOURCE AGENCY USGS
LATITUDE 401007 LONGITUDE 1082402 DRAINAGE AREA 262.00 DATUM 5535.00 STATE 08 COUNTY 103

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PRELIMINARY DATA SUBJECT TO REVISION

	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	2600	2460	2550	3060	3050	3050	453	419	435			
2	2630	2560	2600	2910	2900	2900	419	400	412			
3	2630	2560	2600	2760	2750	2750	400	352	389			
4	2630	2580	2610	2610	2600	2600	382	328	366			
5	2680	2630	2650	2460	2450	2450	---	---	---			
6	2700	2650	2680	2310	2300	2300	---	---	---			
7	2740	2690	2720	2160	2150	2150	---	---	---			
8	2790	2720	2750	2010	2000	2000	1760	---	---			
9	2800	2750	2780	1860	1850	1860	---	---	---			
10	2870	2820	2850	1720	1700	1710	---	---	---			
11	2910	2870	2890	1570	1560	1560	---	---	---			
12	2980	2950	2960	1430	---	---	---	---	---			
13	3020	2980	3000	1290	1270	1280.	---	---	---			
14	3050	3020	3030	1140	1130	1140	---	---	---			
15	3120	3050	3080	996	984	991	1540	---	---			
16	3130	3080	3110	860	---	---	461	---	---			
17	3150	3110	3130	712	---	---	---	---	---			
18	3140	3100	3120	565	---	---	---	---	---			
19	3130	3090	3120	415	---	---	---	---	---			
20	3130	3090	3110	---	---	---	---	---	---			
21	3140	3100	3120	124	---	---	---	---	---			
22	3140	3090	3130	617	---	---	---	---	---			
23	3130	3090	3120	608	531	587	---	---	---			
24	3160	3120	3140	589	550	572	---	---	---			
25	3180	3030	3120	550	531	540	---	---	---			
26	3180	3150	3170	531	490	508	---	---	---			
27	3190	3160	3180	528	486	505	---	---	---			
28	3190	3180	3180	499	459	471	---	---	---			
29	3200	3180	3190	446	416	429	---	---	---			
30	3210	3190	3200	459	409	431	---	---	---			
31	3200	3130	3170	---	---	---	---	---	---			
MONTH	3210	2460	2970	3060	---	---	---	---	---			

RBOSP PROGRESS REPORT

PROCESS DATE IS 09-07-76

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

STATION NUMBER 09306255 YELLOW CREEK NEAR WHITE RIVER, CO. STREAM SOURCE AGENCY USGS
LATITUDE 401007 LONGITUDE 1082402 DRAINAGE AREA 262.00 DATUM 5535.00 STATE 08 COUNTY 103

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PRELIMINARY DATA SUBJECT TO REVISION.

	FEBRUARY			MARCH			APRIL			MAY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	524	332	420						
2	---	---	---	1200	---	---						
3	---	---	---	1360	---	---						
4	---	---	---	1430	1230	1290						
5	---	---	---	1540	1180	1370						
6	---	---	---	1450	1270	1370						
7	---	---	---	1420	1280	1370						
8	---	---	---	1540	1300	1370						
9	---	---	---	1730	1280	1440						
10	---	---	---	1780	1400	1530						
11	---	---	---	1610	1300	1500						
12	---	---	---	1830	1560	1680						
13	---	---	---	1970	1500	1780						
14	---	---	---	1850	1360	1610						
15	---	---	---	1780	1190	1550						
16	---	---	---	1920	1350	1640						
17	---	---	---	1660	1030	1360						
18	---	---	---	1500	963	1210						
19	---	---	---	1840	1030	1510						
20	---	---	---	2100	1910	1980						
21	---	---	---	2080	1910	1980						
22	---	---	---	2010	1740	1890						
23	---	---	---	2560	1640	1890						
24	---	---	---	2160	1700	1870						
25	---	---	---	2180	2060	2120						
26	807	335	472	2310	2020	2150						
27	613	---	---	2230	2070	2140						
28	475	280	364	2150	2090	2110						
29	572	285	379	2180	2000	2100						
30	---	---	---	2150	2070	2100						
31	---	---	---	---	---	---						
MONTH	---	---	---	2560	332	1650						

RBOSP PROGRESS REPORT

PROCESS DATE IS 09-07-76

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

STATION NUMBER 09306255 YELLOW CREEK NEAR WHITE RIVER, CO.
LATITUDE 401007 LONGITUDE 1082402 DRAINAGE AREA 262.00 DATUM 5535.00 STREAM SOURCE AGENCY USGS STATE 08 COUNTY 103

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PRELIMINARY DATA SUBJECT TO REVISION

DAY	JUNE MAX	JUNE MIN	JUNE MEAN	JULY MAX	JULY MIN	JULY MEAN	AUGUST MAX	AUGUST MIN	AUGUST MEAN	SEPTEMBER MAX	SEPTEMBER MIN	SEPTEMBER MEAN
1				---	---	---	1930	807	1170			
2				---	---	---	1590	1060	1400			
3				---	---	---	1760	1350	1710			
4				---	---	---	1840	1180	1780			
5				---	---	---	1890	1820	1860			
6				---	---	---	1930	1870	1900			
7				---	---	---	1990	1890	1930			
8				---	---	---	2090	1870	1980			
9				---	---	---	2290	2120	2170			
10				---	---	---	2240	2170	2210			
11				---	---	---	2290	2260	2280			
12				---	---	---	---	---	---			
13				---	---	---	---	---	---			
14				---	---	---	---	---	---			
15				---	---	---	---	---	---			
16				---	---	---	---	---	---			
17				---	---	---	---	---	---			
18				---	---	---	---	---	---			
19				1670	1390	1640	---	---	---			
20				1650	1550	1590	---	---	---			
21				1620	1490	1540	---	---	---			
22				1640	1520	1570	---	---	---			
23				1640	1520	1580	---	---	---			
24				1620	1530	1580	---	---	---			
25				1610	1490	1560	---	---	---			
26				1620	1530	1570	---	---	---			
27				1640	1550	1580	---	---	---			
28				1650	1550	1600	---	---	---			
29				1600	1470	1560	---	---	---			
30				1650	1520	1570	---	---	---			
31				1650	1160	1550	---	---	---			
MONTH				---	---	---	---	---	---			
YEAR												

RBOSP PROGRESS REPORT

PROCESS DATE IS 09-07-76

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

STATION NUMBER 09306235 CORRAL GULCH BELOW WATER GULCH, NR RANGELY, CO. STREAM SOURCE AGENCY USGS
LATITUDE 395422 LONGITUDE 1083156 DRAINAGE AREA 8.61 DATUM 6980.00 STATE 08 COUNTY 103

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PRELIMINARY DATA SUBJECT TO REVISION

	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	18.0	0.5	7.0									
2	18.5	---	---									
3	18.5	2.0	8.0									
4	16.5	3.0	8.0									
5	18.5	3.0	8.5									
6	18.0	3.5	8.5									
7	15.0	4.0	8.0									
8	13.0	1.0	5.0									
9	14.5	0.0	5.5									
10	14.5	1.5	6.0									
11	14.5	2.5	6.5									
12	15.0	2.0	7.0									
13	10.5	1.5	5.0									
14	12.0	0.5	4.5									
15	13.5	-0.5	4.5									
16	13.5	0.5	5.0									
17	14.5	1.0	6.0									
18	14.5	1.5	6.0									
19	14.0	1.0	5.5									
20	13.0	0.0	4.5									
21	13.0	0.0	5.0									
22	13.0	-0.5	4.0									
23	1.0	0.5	0.5									
24	1.0	---	---									
25	---	---	---									
26	---	---	---									
27	---	---	---									
28	---	---	---									
29	---	---	---									
30	---	---	---									
31	---	---	---									
MONTH	---	---	---									

RBOSP PROGRESS REPORT

PROCESS DATE IS 09-07-76

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

STATION NUMBER 09306235 CORRAL GULCH BELOW WATER GULCH, NR RANGELY, CO. STREAM SOURCE AGENCY USGS
LATITUDE 395422 LONGITUDE 1083156 DRAINAGE AREA 8.61 DATUM 6980.00 STATE 08 COUNTY 103

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PRELIMINARY DATA SUBJECT TO REVISION

	FEBRUARY			MARCH			APRIL			MAY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1				---	---	---	33.0	4.5	14.0	38.0	9.0	19.5
2				---	---	---	39.5	5.0	14.5	37.0	10.0	20.0
3				14.5	2.0	5.5	39.5	9.0	16.0	31.0	10.5	19.0
4				7.0	0.0	3.0	32.0	11.0	17.0	34.0	11.5	20.0
5				37.5	---	---	22.0	12.0	15.5	35.5	12.0	20.0
6				38.0	---	---	20.5	9.0	14.5	30.5	13.0	18.5
7				35.0	---	---	21.5	13.0	16.0	29.0	12.5	18.5
8				36.0	-4.0	9.0	33.0	12.0	19.0	28.0	12.5	17.5
9				38.5	-2.0	12.0	38.0	10.5	20.0	32.0	12.5	19.5
10				41.0	2.5	13.5	---	8.5	---	36.5	11.0	21.0
11				28.0	3.0	10.5	---	9.0	---	30.0	11.0	19.0
12				21.5	---	---	42.0	11.0	18.5	38.0	9.0	19.5
13				32.0	---	---	34.5	10.5	17.5	42.0	9.0	22.5
14				31.0	5.5	12.0	26.0	10.5	17.0	---	11.0	---
15				24.0	1.0	9.0	33.0	11.0	17.0	30.5	11.0	19.0
16				34.0	-0.5	13.0	34.0	9.5	17.0	38.0	8.0	20.5
17				37.0	7.5	15.5	19.0	11.5	14.0	40.5	9.0	23.0
18				42.0	6.0	18.5	21.0	12.0	14.5	39.0	11.0	23.0
19				14.5	1.5	9.5	24.0	12.5	16.5	35.0	13.5	22.5
20				22.5	0.0	8.0	35.0	12.5	21.0	33.0	16.0	22.5
21				26.5	3.5	12.0	31.5	14.0	20.5	32.5	17.5	23.5
22				37.0	2.5	14.0	35.0	13.5	21.5	29.0	16.5	22.0
23				35.5	7.0	15.5	34.5	13.5	22.5	30.5	16.0	22.5
24				35.0	4.0	14.0	38.5	12.5	21.5	36.5	17.0	23.0
25				16.0	4.0	11.0	35.0	13.5	21.0	43.5	13.0	22.5
26				31.5	2.5	9.5	21.5	13.0	16.5	---	11.5	---
27				28.0	1.5	11.5	34.0	11.5	19.5	43.0	13.0	26.0
28				18.0	1.5	8.0	35.0	12.5	21.5	43.5	14.5	26.0
29				25.0	-1.0	7.5	36.0	10.5	19.0	41.0	14.0	25.0
30				28.0	-1.5	9.5	31.0	10.0	17.5	38.0	13.5	22.0
31				38.5	3.5	14.5	---	---	---	42.5	12.0	24.5
MONTH				42.0	---	---	42.0	4.5	18.0	43.5	8.0	21.5

RBOSP PROGRESS REPORT

PROCESS DATE IS 09-07-76

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

STATION NUMBER 09306235 CORRAL GULCH BELOW WATER GULCH, NR RANGELY, CO. STREAM SOURCE AGENCY USGS
LATITUDE 395422 LONGITUDE 1083156 DRAINAGE AREA 8.61 DATUM 6980.00 STATE 08 COUNTY 103

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PRELIMINARY DATA SUBJECT TO REVISION

	JUNE			JULY			AUGUST			SEPTEMBER		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	13.5	---	---	22.0	---						
2	42.5	13.0	26.0	---	18.5	---						
3	38.0	14.0	24.5	45.5	17.5	29.5						
4	42.5	13.5	26.0	---	16.0	---						
5	---	14.0	---	---	17.0	---						
6	41.5	15.0	26.0	44.5	20.0	31.0						
7	---	15.5	---	45.5	21.5	30.0						
8	43.0	16.5	28.5	---	20.0	---						
9	41.5	17.0	27.5	---	21.0	---						
10	43.0	15.5	27.0	---	22.0	---						
11	38.5	15.0	25.0	---	21.0	---						
12	38.5	17.0	25.5	---	24.5	---						
13	36.5	12.0	22.5	---	23.0	---						
14	38.5	10.0	21.5	---	20.0	---						
15	43.5	14.0	22.5	---	20.0	---						
16	15.5	13.0	14.5	---	19.5	---						
17	15.0	3.0	10.5	45.5	22.5	32.5						
18	15.0	11.0	13.0	41.5	25.0	31.5						
19	14.0	12.0	13.0	---	25.0	---						
20	12.5	9.0	11.5	39.5	24.5	31.0						
21	11.5	3.5	9.5	42.5	21.0	27.5						
22	11.0	8.5	10.0	---	---	---						
23	10.0	7.5	9.0	---	---	---						
24	8.5	6.0	8.0	---	---	---						
25	9.5	7.5	9.0	---	---	---						
26	10.5	6.5	9.5	---	---	---						
27	12.0	4.0	10.0	---	---	---						
28	12.5	5.0	10.5	---	---	---						
29	13.0	9.5	12.0	---	---	---						
30	---	12.5	---	---	---	---						
31	---	---	---	---	---	---						
MONTH	43.5	3.0	17.5	---	---	---						
YEAR												

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

09306237 Dry Fork near Rangely

PRELIMINARY DATA SUBJECT TO REVISION

1976 WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

TEMPERATURE °C

DAY	MARCH MAX	MARCH MIN	MARCH MEAN	APRIL MAX	APRIL MIN	APRIL MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	6.5	0.0	---	---	---	---	---	---	---
2	---	---	---	6.5	0.0	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	10.0	0.0	---	---	---	---	---	---	---	---	---	---
23	9.0	0.0	---	---	---	---	---	---	---	---	---	---
24	5.5	0.0	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---
YEAR												

RBOSP PROGRESS REPORT

PROCESS DATE IS 09-07-76

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

STATION NUMBER 09306240 BOX ELDER GULCH NEAR RANGELY, CO. STREAM SOURCE AGENCY USGS
LATITUDE 395318 LONGITUDE 1083140 DRAINAGE AREA 9.21 DATUM 6955.00 STATE 08 COUNTY 103

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PRELIMINARY DATA SUBJECT TO REVISION

	FEBRUARY			MARCH			APRIL			MAY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1										---	---	---
2										22.5	8.5	13.0
3										16.0	5.5	10.5
4										13.5	5.5	9.5
5										18.0	5.5	10.5
6										20.0	6.0	10.5
7										22.5	2.5	10.0
8										26.0	1.5	11.5
9										28.5	2.5	12.5
10										28.5	4.0	13.5
11										28.0	4.0	12.0
12										22.5	3.0	9.5
13										26.5	2.0	12.0
14										31.5	2.5	14.5
15										30.5	1.0	14.5
16										24.0	2.5	13.0
17										27.5	2.5	13.5
18										30.5	3.0	14.5
19										24.5	4.0	13.5
20										30.0	4.0	15.0
21										28.5	5.5	15.5
22										29.5	6.5	16.5
23										29.0	5.5	16.5
24										24.5	5.5	13.0
25										24.5	7.5	14.5
26										22.5	1.0	10.5
27										25.5	---	---
28										30.0	1.0	12.5
29										21.5	4.0	11.0
30										22.5	5.5	11.0
31										25.5	1.0	11.5
MONTH										31.5	1.0	12.5

REOSP PROGRESS REPORT

PROCESS DATE IS 09-07-76

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

STATION NUMBER 09306240 BOX ELDER GULCH NEAR RANGELY, CO. STREAM SOURCE AGENCY USGS
LATITUDE 395318 LONGITUDE 1083140 DRAINAGE AREA 9.21 DATUM 6955.00 STATE 08 COUNTY 103

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PRELIMINARY DATA SUBJECT TO REVISION

	JUNE			JULY			AUGUST			SEPTEMBER		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	29.5	1.0	12.5									
2	28.5	2.5	13.5									
3	29.5	3.0	15.0									
4	26.0	7.0	13.5									
5	24.5	4.0	12.0									
6	11.0	-0.5	2.5									
7	---	---	---									
8	---	---	---									
9	---	---	---									
10	---	---	---									
11	---	---	---									
12	---	---	---									
13	---	---	---									
14	---	---	---									
15	---	---	---									
16	---	---	---									
17	---	---	---									
18	---	---	---									
19	---	---	---									
20	---	---	---									
21	---	---	---									
22	---	---	---									
23	---	---	---									
24	---	---	---									
25	---	---	---									
26	---	---	---									
27	---	---	---									
28	---	---	---									
29	---	---	---									
30	---	---	---									
31	---	---	---									
MONTH	---	---	---									
YEAR												

RBQSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

09306241 Box Elder Gulch Trib nr Rangely

PRELIMINARY DATA SUBJECT TO REVISION

1976 WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

TEMPERATURE

DAY	FEBRUARY MAX	FEBRUARY MIN	FEBRUARY MEAN	MARCH MAX	MARCH MIN	MARCH MEAN	APRIL MAX	APRIL MIN	APRIL MEAN	MAY MAX	MAY MIN	MAY MEAN
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	1.0	0.0	[illegible]	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---
YEAR												

BOSR PROGRESS DEPOSIT

PROCESS DATE IS 09-07-76

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

STATION NUMBER 09306242 CORRAL GULCH NEAR RANGELY, CO. STREAM SOURCE AGENCY USGS
LATITUDE 395513 LONGITUDE 1082820 DRAINAGE AREA 31.60 DATUM 6580.00 STATE 08 COUNTY 103

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PRELIMINARY DATA SUBJECT TO REVISION

	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	14.5	9.0	11.0	11.0	6.5	8.0	---	---	---	---	---	---
2	15.0	9.5	11.5	11.0	6.5	8.0	---	---	---	---	---	---
3	15.5	9.5	11.5	11.0	6.5	8.0	---	---	---	---	---	---
4	14.5	9.5	11.5	11.0	6.5	8.0	---	---	---	---	---	---
5	15.5	9.5	12.0	11.0	6.5	8.0	---		---	---	---	---
6	15.0	9.5	12.0	10.5	7.0	8.0	---	---	---	---	---	---
7	14.5	10.0	11.5	11.0	6.5	8.5	---	---	---	---	---	---
8	14.0	9.0	10.5	9.5	6.5	8.0	---	---	---	---	---	---
9	14.5	8.5	11.0	10.0	6.0	7.5	---	---	---	7.0	5.5	6.0
10	14.5	9.0	11.0	7.5	6.5	7.0	---	---	---	7.5	4.5	6.0
11	14.5	9.5	11.5	8.0	6.0	6.5	---	---	---	7.0	4.5	5.5
12	15.0	9.5	11.5	6.0	---	---	---	---	---	7.5	5.0	6.0
13	11.5	9.0	10.5	---	---	---	---	---	---	6.5	4.5	5.0
14	13.0	8.5	10.0	---	---	---	---	---	---	7.0	4.5	5.5
15	14.5	8.5	10.5	---	---	---	---	---	---	8.0	5.0	6.0
16	14.5	8.5	10.5	---	---	---	---	---	---	8.0	5.5	6.0
17	14.5	8.5	11.0	---	---	---	---	---	---	8.5	5.5	6.5
18	15.0	9.0	11.0	---	---	---	---	---	---	8.5	5.5	6.5
19	14.5	8.5	10.5	---	---	---	---	---	---	8.0	5.0	6.0
20	14.0	8.5	10.5	---	---	---	---	---	---	7.5	5.0	6.0
21	14.0	8.5	10.5	---	---	---	---	---	---	7.5	5.0	6.0
22	14.0	7.0	10.0	---	---	---	---	---	---	7.5	5.0	6.0
23	9.5	7.5	8.0	---	---	---	---	---	---	8.0	5.0	6.0
24	11.5	7.5	8.0	---	---	---				8.0	5.5	6.5
25	10.0	7.0	8.5	---	---	---	---	---	---	7.5	5.5	6.0
26	12.0	7.5	9.0	---	---	---	---	---	---	6.0	---	---
27	11.0	7.5	8.5	---	---	---	---	---	---	---	---	---
28	11.0	6.5	8.5	---	---	---	---	---	---	---	---	---
29	11.0	6.5	8.0	---	---	---	---	---	---	---	---	---
30	10.0	6.0	7.5	---	---	---	---	---	---	---	---	---
31	9.5	7.0	7.5	---	---	---	---	---	---	---	---	---
MONTH	15.5	6.0	10.0	---	---	---	---	---	---	---	---	---

RBOSP PROGRESS REPORT

PROCESS DATE IS 09-07-76

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

STATION NUMBER 09306242 CORRAL GULCH NEAR RANGELY, CO. STREAM SOURCE AGENCY USGS
LATITUDE 395513 LONGITUDE 1082820 DRAINAGE AREA 31.60 DATUM 6580.00 STATE 08 COUNTY 103

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PRELIMINARY DATA SUBJECT TO REVISION

	FEBRUARY			MARCH			APRIL			MAY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1							---	---	---	14.5	8.0	10.5
2							---	---	---	14.5	8.0	10.5
3							---	---	---	13.5	8.0	10.0
4							---	---	---	14.5	9.0	10.5
5							---	---	---	13.0	8.5	10.0
6							---	---	---	12.5	9.0	10.0
7							---	---	---	13.0	6.0	9.5
8							---	---	---	12.0	8.0	9.5
9							11.5	7.0	9.0	14.5	8.0	9.5
10							12.5	7.0	9.0	13.5	7.5	9.5
11							13.0	7.0	9.5	13.5	7.5	9.0
12							12.5	8.0	9.0	12.5	6.0	8.5
13							13.0	8.5	9.5	15.5	4.5	6.5
14							12.5	8.5	10.0	18.0	5.0	9.5
15							13.5	9.0	10.0	15.0	5.5	9.0
16							13.5	9.0	10.5	19.0	3.0	9.5
17							12.0	8.5	9.5	20.0	4.0	10.5
18							13.0	7.5	9.5	18.0	5.5	11.0
19							13.5	9.0	10.0	18.0	7.0	11.0
20							14.0	8.5	10.5	16.0	8.5	11.5
21							13.5	8.5	10.5	15.0	8.5	11.0
22							14.0	8.5	10.5	13.5	8.0	10.5
23							14.0	8.5	10.5	15.5	8.5	11.0
24							14.5	8.0	10.5	18.5	8.5	11.5
25							14.0	8.5	10.0	22.0	6.5	12.0
26							12.0	7.0	9.5	21.5	5.5	12.0
27							14.0	7.5	10.0	19.5	6.0	11.5
28							14.0	8.0	10.5	18.5	6.0	11.0
29							14.0	8.5	10.5	17.0	6.0	10.5
30							13.5	8.5	10.0	16.0	5.5	9.0
31							---	---	---	17.5	4.0	9.5
MONTH							---	---	---	22.0	3.0	10.0

RBCSP PROGRESS REPORT

PROCESS DATE IS 09-07-76

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

STATION NUMBER 09306242 CORRAL GULCH NEAR RANGELY, CO. STREAM SOURCE AGENCY USGS
LATITUDE 395513 LONGITUDE 1082820 DRAINAGE AREA 31.60 DATUM 6580.00 STATE 08 COUNTY 103

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PRELIMINARY DATA SUBJECT TO REVISION

	JUNE			JULY			AUGUST			SEPTEMBER		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	16.5	4.0	9.5	21.0	9.5	13.0						
2	14.5	4.0	9.0	20.0	8.5	13.0						
3	26.5	4.0	9.0	21.5	7.5	13.5						
4	14.0	3.5	8.0	21.5	7.0	13.5						
5	15.0	3.0	8.0	22.0	7.5	13.5						
6	13.0	3.0	7.0	21.0	8.5	14.0						
7	14.0	2.5	7.0	18.0	9.5	13.0						
8	13.5	3.0	7.0	23.0	9.0	14.5						
9	13.5	3.5	7.5	22.0	9.0	14.0						
10	13.0	3.0	7.0	24.0	9.5	14.5						
11	12.0	3.0	7.0	24.0	9.5	15.0						
12	14.5	4.5	7.5	23.0	10.5	15.0						
13	13.0	0.0	6.5	24.0	10.5	16.0						
14	15.5	1.0	7.0	23.0	9.0	14.5						
15	17.0	3.5	9.0	23.0	8.5	14.5						
16	14.5	5.0	8.5	23.5	8.5	15.0						
17	18.0	6.0	9.0	22.5	10.0	15.5						
18	18.0	4.5	10.5	23.0	11.0	15.5						
19	20.0	5.0	11.5	22.0	11.0	15.0						
20	19.5	6.5	12.0	22.0	10.5	15.0						
21	19.5	7.0	12.5	22.5	9.0	13.5						
22	21.0	9.0	13.0	---	---	---						
23	21.0	8.0	13.0	---	---	---						
24	20.5	6.0	12.5	---	---	---						
25	19.0	7.0	10.5	---	---	---						
26	20.5	7.0	12.5	---	---	---						
27	20.5	6.5	13.0	---	---	---						
28	22.0	7.0	13.0	---	---	---						
29	19.5	7.0	12.5	---	---	---						
30	20.5	8.5	13.5	---	---	---						
31	---	---	---	---	---	---						
MONTH	26.5	0.0	10.0	---	---	---						
YEAR												

RBOSP PROGRESS REPORT

PROCESS DATE IS 09-07-76

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

STATION NUMBER 09306244 CORRAL GULCH AT 84 RANCH, CO. STREAM SOURCE AGENCY USGS
LATITUDE 395602 LONGITUDE 1082535 DRAINAGE AREA DATUM 6366.00 STATE 08 COUNTY 103

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PRELIMINARY DATA SUBJECT TO REVISION

	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1				---	---	---	7.5	2.5	4.0	1.0	1.0	1.0
2				---	---	---	8.5	2.0	4.5	---	---	---
3				---	---	---	8.5	2.0	4.5	---	---	---
4				---	---	---	8.5	2.0	4.0	---	---	---
5				---	---	---	6.0	2.5	4.5	---	---	---
6				10.5	6.0	8.0	---	---	---	---	---	---
7				12.0	3.5	7.5	---	---	---	---	---	---
8				9.5	5.5	7.5	---	---	---	---	---	---
9				9.0	2.5	5.5	---	---	---	---	---	---
10				5.5	1.0	3.5	---	---	---	---	---	---
11				6.0	0.5	3.0	---	---	---	---	---	---
12				---	---	---	---	---	---	---	---	---
13				---	---	---	---	---	---	---	---	---
14				---	---	---	---	---	---	---	---	---
15				---	---	---	---	---	---	---	---	---
16				---	---	---	---	---	---	6.0	1.5	3.5
17				---	---	---	---	---	---	6.5	0.5	2.5
18				8.0	3.0	5.5	---	---	---	6.5	1.0	3.0
19				5.5	1.0	3.0	---	---	---	6.0	0.0	2.0
20				5.0	1.0	2.5	---	---	---	5.5	0.0	1.5
21				5.5	1.0	3.0	---	---	---	5.5	0.0	1.5
22				6.0	1.0	2.5	---	---	---	5.5	-0.5	1.5
23				6.0	1.5	3.0	---	---	---	6.0	0.0	2.5
24				6.0	1.5	3.5	7.0	4.5	5.5	5.5	0.0	2.0
25				4.5	0.5	2.0	8.5	2.5	4.5	3.5	-0.5	1.0
26				2.5	0.5	2.0	7.5	1.5	4.0	---	-0.5	---
27				5.0	2.0	3.5	7.0	1.5	3.5	5.5	-0.5	1.5
28				4.5	2.0	3.0	5.5	1.0	2.0	7.0	0.5	2.5
29				3.5	1.0	2.0	4.0	1.0	2.0	6.5	0.0	2.5
30				4.5	1.0	2.5	6.5	1.0	2.5	7.0	0.5	2.5
31				---	---	---	4.5	1.0	1.5	6.5	0.5	2.0
MONTH				---	---	---	---	---	---	---	---	---

RBOSP PROGRESS REPORT

PROCESS DATE IS 09-07-76

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

STATION NUMBER 09306244 CORRAL GULCH AT 84 RANCH, CO. STREAM SOURCE AGENCY USGS
LATITUDE 395602 LONGITUDE 1082535 DRAINAGE AREA DATUM 6366.00 STATE 08 COUNTY 103

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
PRELIMINARY DATA SUBJECT TO REVISION

	FEBRUARY			MARCH			APRIL			MAY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	7.0	0.0	2.5	13.0	-0.5	3.5	---	---	---	22.0	1.0	10.5
2	6.5	0.5	2.5	2.5	-0.5	0.0	---	---	---	21.5	2.5	11.0
3	7.0	0.5	2.5	6.0	-0.5	1.5	---	---	---	16.5	3.5	9.5
4	5.0	2.0	3.0	4.5	-0.5	0.5	---	---	---	19.5	5.5	11.0
5	6.0	1.0	2.0	8.5	-0.5	1.5	---	---	---	19.0	5.0	10.5
6	6.5	0.0	2.0	7.0	-0.5	1.0	---	---	---	16.0	5.5	9.5
7	8.5	1.0	3.5	8.5	-0.5	1.5	---	---	---	20.0	6.5	11.0
8	8.5	1.5	4.0	---	---	---	---	---	---	---	6.0	---
9	7.0	0.5	2.5	---	---	---	---	---	---	23.5	6.5	13.0
10	5.0	1.0	2.5	---	---	---	---	---	---	22.0	4.0	12.5
11	7.0	1.0	2.5	---	---	---	---	---	---	17.0	5.5	11.5
12	6.0	1.0	2.5	---	---	---	---	---	---	30.0	3.0	14.0
13	10.0	0.5	3.0	---	---	---	---	---	---	23.5	5.5	16.5
14	10.0	1.0	5.5	---	---	---	---	---	---	24.5	6.0	15.0
15	10.0	2.0	5.0	---	---	---	14.5	4.0	7.5	21.0	4.5	13.0
16	14.0	3.5	7.5	---	---	---	19.0	2.5	8.5	22.5	5.5	14.5
17	15.0	5.0	8.0	---	---	---	14.0	3.0	7.0	25.5	6.5	18.5
18	14.5	0.5	7.0	---	---	---	17.0	2.0	7.5	28.0	6.0	18.0
19	10.5	0.5	3.5	---	---	---	18.0	4.0	8.5	31.0	7.0	15.5
20	2.0	0.5	0.5	---	---	---	21.0	2.5	10.0	26.0	7.5	16.0
21	7.0	0.0	2.0	---	---	---	18.0	3.5	9.0	25.0	8.0	16.5
22	7.0	0.0	2.0	---	---	---	21.0	2.0	9.5	20.0	6.5	11.5
23	8.5	0.0	2.5	---	---	---	20.5	3.0	10.5	15.0	6.0	10.0
24	9.0	0.0	3.0	---	---	---	23.5	0.5	10.0	19.0	6.5	10.5
25	11.0	0.0	3.5	---	---	---	21.0	2.0	8.5	22.5	4.5	12.5
26	13.0	-0.5	3.0	---	---	---	15.5	1.0	7.5	24.0	3.5	14.0
27	13.0	-0.5	3.0	---	---	---	21.0	0.0	9.0	22.5	4.5	13.5
28	6.5	-0.5	1.0	---	---	---	22.0	0.5	10.0	22.0	5.0	12.5
29	12.0	0.0	2.5	---	---	---	22.5	3.0	10.0	21.0	5.0	12.0
30	---	---	---	---	---	---	19.0	4.0	9.5	19.0	5.0	10.5
31	---	---	---	---	---	---	---	---	---	23.5	4.5	14.0
MONTH	15.0	-0.5	3.5	---	---	---	---	---	---	31.0	1.0	13.0

RBOSP PROGRESS REPORT

PROCESS DATE IS 09-07-76

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

STATION NUMBER 09306244 CORRAL GULCH AT 84 RANCH, CO. STREAM SOURCE AGENCY USGS
LATITUDE 395602 LONGITUDE 1082535 DRAINAGE AREA DATUM 6366.00 STATE 08 COUNTY 103

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PRELIMINARY DATA SUBJECT TO REVISION

	JUNE			JULY			AUGUST			SEPTEMBER		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	24.5	4.5	14.0	19.5	9.0	12.0						
2	23.5	5.0	13.0	19.0	8.5	12.5						
3	22.5	5.5	12.5	20.0	8.0	13.0						
4	20.5	5.0	11.0	20.5	7.5	13.0						
5	19.5	6.0	11.0	21.5	7.5	13.0						
6	17.0	6.0	10.0	20.5	8.5	13.0						
7	18.5	6.0	10.5	17.0	8.5	12.0						
8	17.5	6.5	11.0	20.0	8.5	13.5						
9	18.0	6.5	11.0	22.0	8.5	13.0						
10	18.5	6.0	11.0	22.5	8.5	13.0						
11	17.0	6.5	10.5	21.5	8.5	13.0						
12	17.5	7.5	10.5	20.5	9.0	13.0						
13	15.0	3.5	9.0	23.5	9.0	15.0						
14	19.0	4.5	12.5	23.0	8.5	13.5						
15	18.0	7.0	14.5	23.5	8.5	14.5						
16	---	---	---	22.0	9.0	14.5						
17	---	---	---	22.0	10.5	14.5						
18	---	---	---	24.0	11.5	16.0						
19	---	---	---	23.5	12.5	16.5						
20	---	---	---	24.0	12.5	17.0						
21	---	---	---	25.0	11.5	17.0						
22	---	---	---	21.5	12.0	14.0						
23	---	---	---	---	---	---						
24	---	---	---	---	---	---						
25	18.0	9.0	13.0	---	---	---						
26	19.5	8.0	12.5	---	---	---						
27	33.5	0.0	16.5	---	---	---						
28	35.0	1.5	16.0	---	---	---						
29	32.0	1.0	14.0	---	---	---						
30	36.5	6.0	15.5	---	---	---						
31	---	---	---	---	---	---						
MONTH	---	---	---	---	---	---						
YEAR												

RBCSP PROGRESS REPORT

PROCESS DATE IS 09-07-76

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

STATION NUMBER 09306255 YELLOW CREEK NEAR WHITE RIVER, CO. STREAM SOURCE AGENCY USGS
LATITUDE 401007 LONGITUDE 1082402 DRAINAGE AREA 262.00 DATUM 5535.00 STATE 08 COUNTY 103

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PRELIMINARY DATA SUBJECT TO REVISION

	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	29.0	8.0	17.5	22.5	9.0	14.5	---	---	---			
2	30.0	8.5	18.0	23.0	8.5	14.5	---	---	---			
3	30.0	9.5	18.0	22.0	8.5	14.0	---	---	---			
4	26.5	10.0	18.0	20.5	8.5	13.0	---	---	---			
5	31.0	11.5	20.0	21.5	8.5	13.5	---	---	---			
6	31.0	11.5	20.0	22.0	8.5	14.0	---	---	---			
7	27.5	14.5	19.5	21.0	8.5	14.5	---	---	---			
8	24.0	11.5	17.0	18.5	12.5	15.0	10.5	9.0	10.0			
9	25.5	8.0	16.0	16.0	8.5	12.0	12.5	6.5	9.0			
10	28.0	10.0	17.5	12.5	8.5	9.5	10.5	5.5	8.5			
11	27.5	11.0	18.0	12.5	8.5	9.5	10.5	7.5	9.0			
12	26.5	10.5	18.0	8.5	8.5	8.5	11.0	8.5	10.0			
13	23.0	12.5	17.0	8.5	8.5	8.5	12.5	8.0	10.5			
14	21.5	10.0	14.5	8.5	8.5	8.5	9.5	0.5	5.0			
15	25.0	8.5	15.5	12.0	8.5	9.0	10.0	1.5	9.5			
16	26.0	9.0	16.0	14.0	8.5	10.0	10.0	10.0	10.0			
17	26.5	9.0	16.5	15.5	8.5	10.5	10.0	10.0	10.0			
18	26.5	9.5	17.0	13.5	8.5	9.5	10.0	10.0	10.0			
19	26.0	9.0	16.0	11.5	8.5	9.0	---	---	---			
20	24.5	8.5	15.0	8.5	8.5	8.5	---	---	---			
21	24.0	8.5	15.0	8.5	6.5	8.0	---	---	---			
22	26.5	10.0	16.0	12.5	---	---	---	---	---			
23	13.0	8.5	10.0		---	---	---	---	---			
24	15.5	8.5	10.0	---	---	---	---	---	---			
25	9.5	8.5	9.0	---	---	---	---	---	---			
26	21.0	8.5	13.0	---	---	---	---	---	---			
27	14.5	8.5	11.5	---	---	---	---	---	---			
28	19.5	10.0	13.0	---	---	---	---	---	---			
29	21.5	8.5	13.0	---	---	---	---	---	---			
30	22.0	8.5	13.5	---	---	---	---	---	---			
31	20.5	12.0	16.5	---	---	---	---	---	---			
MONTH	31.0	8.0	15.5	---	---	---	---	---	---			

RECSP PROGRESS REPORT

PROCESS DATE IS 09-07-76

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

STATION NUMBER 09306255 YELLOW CREEK NEAR WHITE RIVER, CO. STREAM SOURCE AGENCY USGS
LATITUDE 401007 LONGITUDE 1082402 DRAINAGE AREA 262.00 DATUM 5535.00 STATE 08 COUNTY 103

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PRELIMINARY DATA SUBJECT TO REVISION

	FEBRUARY			MARCH			APRIL			MAY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	15.0	9.5	11.0						
2	---	---	---	15.5	9.0	11.0						
3	---	---	---	10.5	9.0	10.0						
4	---	---	---	11.0	10.0	10.5						
5	---	---	---	11.0	10.5	11.0						
6	---	---	---	11.5	11.0	11.5						
7	---	---	---	12.0	11.5	12.0						
8	---	---	---	12.5	12.0	12.0						
9	---	---	---	17.0	11.5	12.5						
10	---	---	---	23.0	11.5	14.0						
11	---	---	---	20.5	12.0	14.5						
12	---	---	---	22.5	12.0	14.0						
13	---	---	---	18.0	12.5	13.0						
14	---	---	---	27.0	12.0	16.5						
15	---	---	---	25.5	12.5	16.5						
16	---	---	---	26.5	13.0	17.0						
17	---	---	---	27.0	13.0	16.5						
18	---	---	---	20.5	11.0	14.0						
19	---	---	---	21.0	10.5	14.0						
20	---	---	---	24.0	11.0	14.5						
21	---	---	---	25.5	11.5	16.5						
22	---	---	---	25.5	11.5	17.5						
23	---	---	---	28.0	13.0	18.0						
24	---	---	---	29.5	12.0	19.0						
25	---	---	---	15.0	12.0	13.5						
26	17.0	9.5	12.0	25.5	11.5	15.5						
27	15.5	9.0	11.0	25.0	11.5	16.0						
28	15.0	9.5	11.0	27.5	12.0	17.0						
29	14.5	9.5	10.5	25.0	12.0	16.0						
30	---	---	---	13.0	12.5	12.5						
31	---	---	---	---	---	---						
MONTH	---	---	---	29.5	9.0	14.5						

RBOSP PROGRESS REPORT

PROCESS DATE IS 09-07-76

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

STATION NUMBER 09306255 YELLOW CREEK NEAR WHITE RIVER, CO. STREAM SOURCE AGENCY USGS
LATITUDE 401007 LONGITUDE 1082402 DRAINAGE AREA 262.00 DATUM 5535.00 STATE 08 COUNTY 103

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PRELIMINARY DATA SUBJECT TO REVISION

	JUNE			JULY			AUGUST			SEPTEMBER		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1					---		39.0	27.0	31.5			
2					---		40.0	26.0	31.5			
3					---		44.5	24.0	31.5			
4					---		45.0	22.0	31.0			
5					---		---	19.0	---			
6					---		42.5	17.5	28.5			
7					---		41.5	17.5	28.5			
8					---		41.5	21.0	28.5			
9					---		43.0	21.0	30.5			
10					---		41.0	18.5	28.0			
11					---		37.5	22.0	25.5			
12					---		---	---	---			
13					---		---	---	---			
14					---		---	---	---			
15					---		---	---	---			
16					---		---	---	---			
17					---		---	---	---			
18					---		---	---	---			
19					30.0		---	---	---			
20					26.5		---	---	---			
21					22.0		---	---	---			
22					22.0		---	---	---			
23					20.5		---	---	---			
24					22.5		---	---	---			
25					24.5		---	---	---			
26					25.0		---	---	---			
27					24.5		---	---	---			
28					22.0		---	---	---			
29					23.0		---	---	---			
30					25.5		---	---	---			
31					28.0		---	---	---			
MONTH					---		---	---	---			
YEAR												

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306230 - STAKE SPRINGS [illegible]W NEAR RANGELY, CO.

PROCESS DATE 09/02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED ALUMINUM (AL) (UG/L)	DISSOLVED IRON (FE) (UG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)
FEB., 1976										
13...	1400	.02	5.3	100	180	26	6.9	17	5.4	139

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306230 - STAKE SPRINGS [illegible]W NEAR RANGELY, CO.

PROCESS DATE 09/02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	CARBONATE (CO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED NITRITE PLUS NITRATE (N) (MG/L)	DISSOLVED AMMONIA NITROGEN (N) (MG/L)	DISSOLVED AMMONIA (NH4) (MG/L)	DISSOLVED ORGANIC NITROGEN (N) (MG/L)	DISSOLVED KJEL. NITROGEN (N) (MG/L)
FEB., 1976										
13...	0	114	17	4.2	.1	.42	.11	.14	2.3	2.4

RBCSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306230 - STAKE SPRINGS [illegible]W NEAR RANGELY, CO.

PROCESS DATE 09/02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOLVED ORTHO. PHOS-PHORUS (P) (MG/L)	PHOS-PHATE (PO4) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO
FEB., 1976										
13...	.34	.16	1.0	154	.21	.01	94	0	27	.8

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF IN[illegible]IOR - GEOLOGICAL SURVEY
09306230 - STAKE SPRINGS [illegible]AW NEAR RANGELY, CO.

PROCESS DAT[illegible]9/02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	DIS-SOL-VED ORGANIC CARBON (C) (MG/L)	SUS-PENDED ORGANIC CARBON (C) (MG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED STRON-TIUM (SR) (UG/L)
FEB., 1976									
13...	280	8.4	3.0	100	67	1.4	2	160	390

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY PROCESS DATE 02/02/76
09306235 - CORRAL GULCH BELOW WATER GULCH, NR RANGELY, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED ALUMINUM (AL) (UG/L)	DISSOLVED IRON (FE) (UG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)
NOV., 1975										
18...	1015	--	20	40	40	90	59	84	.9	431
JAN., 1976										
02...	1300	.05	19	30	30	95	60	84	1.5	418
MAY										
25...	1125	.10	20	--	--	65	58	85	1.4	339
JUNE										
24...	1345	.09	18	20	30	58	58	94	1.5	325
JULY										
21...	1325	.10	22	--	--	69	58	93	2.8	358

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY PROCESS DATE 09/02/76
09306235 - CORRAL GULCH BE[illegible] WATER GULCH, NR RANGELY, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	CAR-BONATE (CO3) (MG/L)	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED AMMONIA NITRO-GEN (N) (MG/L)	DIS_ SOLVED AMMONIA (NH4) (MG/L)	DIS-SOLVED ORGANIC NITRO-GEN (N) (MG/L)	DIS-SOLVED KJEL. NITRO-GEN (N) (MG/L)
NOV., 1975										
18...	0	354	280	7.4	.2	.94	.00	.00	.40	.40
JAN., 1976										
02...	0	343	310	11	.3	1.1	.09	.12	.60	.69
MAY										
25...	0	278	270	12	.3	.52	.02	.03	.35	.37
JUNE										
24...	0	267	300	8.0	.3	.28	.02	.03	.40	.42
JULY										
21...	0	294	290	8.8	.3	.53	.05	.06	.79	.84

REOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY PROCESS DATE 09/02/76
09306235 - CORRAL GULCH BE[illegible] WATER GULCH, NR RANGELY, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOLVED ORTHO. PHOS-PHORUS (P) (MG/L)	PHOS-PHATE (PO4) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO
NOV., 1975										
18...	.00	.01	.00	760	1.03	--	470	120	28	1.7
JAN., 1976										
02...	.02	.00	.06	793	1.08	.11	490	140	27	1.7
MAY										
25...	.01	.00	.03	681	.93	.18	400	120	31	1.8
JUNE										
24...	.01	.02	.03	702	.95	.17	390	120	35	2.1
JULY										
21...	.09	.00	.28	723	.98	.20	410	120	33	2.0

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF IN[illegible]IOR - GEOLOGICAL SURVEY PROCESS DATE [illegible]/02/76
09306235 - CORRAL GULCH BELOW WATER GULCH, NR RANGELY, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	DISSOLVED OXYGEN (MG/L)	DISSOLVED ORGANIC CARBON (C) (MG/L)	SUSPENDED ORGANIC CARBON (C) (MG/L)	DISSOLVED ARSENIC (AS) (UG/L)	DISSOLVED BORON (B) (UG/L)	DISSOLVED STRONTIUM (SR) (UG/L)
NOV., 1975										
18...	1080	8.4	1.5	5	11.0	11	.5	3	100	1800
JAN., 1976										
02...	1100	--	.5	5	--	14	2.5	4	80	1300
MAY										
25...	1050	7.9	23.0	8	7.5	4.6	--	--	90	--
JUNE										
24...	1050	8.1	24.5	4	--	7.4	.3	7	110	1700
JULY										
21...	1000	8.3	30.0	25	6.8	16	.0	--	120	--

REOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY PROCESS DATE 09/02/76
09306235 - CORRAL GULCH BELOW WATER GULCH, NR RANGELY, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	TIME	DISSOLVED SULFIDE (S) (MG/L)	CHEMICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L)	CYANIDE (CN) (MG/L)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)	OIL AND GREASE (MG/L)	DISSOLVED BARIUM (BA) (UG/L)	DISSOLVED CADMIUM (CD) (UG/L)
JAN., 1976								
02...	1300	.0	12	.00	4.0	0	60	7
JUNE								
24...	1345	.5	5	.00	--	8	--	1

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY PROCESS DATE 09/02/76
09306235 - CORRAL GULCH BELOW WATER GULCH, NR RANGELY, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	DIS-SOLVED CHRO-MIUM (CR) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED LITHIUM (LI) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED SELE-NIUM (SE) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)
JAN., 1976							
02...	<15	5	<15	20	.0	2	10
JUNE							
24...	10	5	3	20	.0	4	0

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UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY PROCESS DATE 09/02/76
09306235 - CORRAL GULCH BELOW WATER GULCH, NR RANGELY, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	TIME	TOTAL ALDRIN (UG/L)	TOTAL CHLOR-DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DI-AZINON (UG/L)	TOTAL DI-ELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)
JAN., 1976										
02...	1300	.00	.0	.00	.00	.00	.00	.00	.00	.00

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY PROCESS DATE 09/02/76
09306235 - CORRAL GULCH BELOW WATER GULCH, NR RANGELY, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	TOTAL HEPTA-CHLOR (UG/L)	TOTAL HEPTA-CHLOR EPOXIDE (UG/L)	TOTAL LINDANE (UG/L)	TOTAL PCB (UG/L)	TOTAL TOX-APHENE (UG/L)	TOTAL TRI-THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
JAN., 1976									
02...	.00	.00	.00	.0	0	.00	.00	.00	.00

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF IN[illegible]IOR - GEOLOGICAL SURVEY PROCESS DATE [illegible]/02/76
09306235 - CORRAL GULCH BELOW WATER GULCH, NR RANGELY, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	DIS-SOLVED LITHIUM (LI) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED MOLYB-DENUM (MO) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	DIS-SOLVED SILVER (AG) (UG/L)	DIS-SOLVED STRON-TIUM (SR) (UG/L)	DIS-SOLVED TIN (SN) (UG/L)	DIS-SOLVED TI-TANIUM (TI) (UG/L)	DIS-SOLVED VANA-DIUM (V) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)	DIS-SOLVED ZIR-CONIUM (ZR) (UG/L)
JAN., 1976											
02...	20	20	40	<15	<2	1300	<15	<10	<15	10	<40
JUNE											
24...	30	<10	50	<15	<2	1400	<15	<10	<15	0	<30

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY PROCESS DATE 09/02/76
09306235 - CORRAL GULCH BELOW WATER GULCH, NR RANGELY, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	TIME	DIS-SOLVED ALUM-INUM (AL) (UG/L)	DIS-SOLVED BARIUM (BA) (UG/L)	DIS-SOLVED BERYL-LIUM (BE) (UG/L)	DIS-SOLVED BISMUTH (BI) (UG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED CHRO-MIUM (CR) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED GALLIUM (GA) (UG/L)	DIS-SOLVED GER-MANIUM (GE) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)
JAN., 1976												
02...	1300	30	60	<3	<15	80	<15	<15	<7	<40	30	<15
JUNE												
24...	1350	50	70	<6	<20	80	<15	<15	<6	<20	<10	<15

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY PROCESS DATE 09/02/76
09306235 - CORRAL GULCH BELOW WATER GULCH, NR RANGELY, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	TIME	DIS-SOLVED GROSS ALPHA AS U-NAT. (UG/L)	SUS-PENDED GROSS ALPHA AS U-NAT. (UG/L)	DIS-SOLVED GROSS BETA AS SR90 /Y90 (PC/L)	SUS-PENDED GROSS BETA AS SR90 /Y90 (PC/L)	DIS-SOLVED RA-226 (RADON METHOD) (PC/L)
JAN., 1976						
02...	1300	<9.4	<.4	5.2	<.4	.08
JUNE						
24...	1345	<9.9	<.4	2.8	<.4	--

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306240 - BOX ELDER GULCH NEAR RANGELY, CO.

PROCESS DATE 08/02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED ALUMINUM (AL) (UG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)
MAR., 1976										
18...	1215	.01	3.2	40	17	5.4	2.7	11	90	0
MAY										
25...	1345	.57	24	--	54	42	51	1.0	310	0

RBOCP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306240 - BOX ELDER GULCH NEAR RANGELY, CO.

PROCESS DATE 09/02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED AMMONIA NITRO-GEN (N) (MG/L)	DIS_ SOLVED AMMONIA (NH4) (MG/L)	DIS-SOLVED ORGANIC NITRO-GEN (N) (MG/L)	DIS-SOLVED KJEL. NITRO-GEN (N) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)
MAR., 1976										
18...	74	5.5	3.0	.1	.23	.25	.32	30	30	.83
MAY										
25...	254	140	5.5	.3	.72	.01	.01	.41	.42	.56

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306240 - BOX ELDER GULCH NEAR RANGELY, CO.

PROCESS DATE 09/02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	DIS-SOLVED ORTHO. PHOS-PHORUS (P) (MG/L)	PHOS-PHATE (PO4) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO
MAR., 1976									
18...	.35	2.5	95	.13	.00	65	0	7	.1
MAY									
25...	.00	1.7	474	.64	.73	310	53	26	1.3

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306240 - BOX ELDER GULCH NEAR RANGELY, CO.

PROCESS DATE 09/02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	DISSOLVED OXYGEN (MG/L)	DISSOLVED ORGANIC CARBON (C) (MG/L)	SUSPENDED ORGANIC CARBON (C) (MG/L)	DISSOLVED BORON (B) (UG/L)	DISSOLVED STRONTIUM (SR) (UG/L)
MAR., 1976									
18...	163	8.1	3.0	100	--	34	2.4	110	190
MAY									
25...	750	8.1	24.0	12	6.7	4.2	--	60	--

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306240 - BOX ELDER GULCH NEAR RANGELY, CO.

PROCESS DATE 09/02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	TIME	DIS-SOL-VED SUL-FIDE (S) (MG/L)	CHEM-ICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L)	CYANIDE (CN) (MG/L)	OIL AND GREASE (MG/L)	DIS-SOLVED BARIUM (BA) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)
MAR., 1976							
18...	1215	.2	100	.00	2	0	1

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF IN[illegible]IOR - GEOLOGICAL SURVEY
09306240 - BOX ELDER GULC[illegible]EAR RANGELY, CO.

PROCESS DATE [illegible]/02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	DIS-SOLVED CHRO-MIUM (CR) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED LITHIUM (LI) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED SELE-NIUM (SE) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)
MAR., 1976							
18...	0	13	13	10	.0	0	30

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306240 - BOX ELDER GULCH NEAR RANGELY, CO.

PROCESS DATE [illegible]/02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	DIS-SOLVED LITHIUM (LI) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED MOLYB-DENUM (MO) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	DIS-SOLVED SILVER (AG) (UG/L)	DIS-SOLVED STRON-TIUM (SR) (UG/L)	DIS-SOLVED TIN (SN) (UG/L)	DIS-SOLVED TI-TANIUM (TI) (UG/L)	DIS-SOLVED VANA-DIUM (V) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)	DIS-SOLVED ZIR-CONIUM (ZR) (UG/L)
MAR.. 1976											
18...	0	30	3	<3	<0	200	<5	<1	<3.0	40	<5
JUNE											
24...	20	<7	40	<10	<2	920	<10	<7	<10	0	<20

RECEIVED PROCESSED REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306240 - BOX ELDER GULCH NEAR RANGELY, CO.

PROCESS DATE /02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	TIME	DIS-SOLVED ALUM-INUM (AL) (UG/L)	DIS-SOLVED BARIUM (BA) (UG/L)	DIS-SOLVED BERYL-LIUM (BE) (UG/L)	DIS-SOLVED BISMUTH (BI) (UG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED CHRO-MIUM (CR) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED GALLIUM (GA) (UG/L)	DIS-SOLVED GER-MANIUM (GE) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)
MAR., 1976												
18...	1220	40	50	<1	<4	50	<3	<3	<1	<3	280	5
JUNE												
24...	1050	130	70	<5	<15	50	<10	<10	<5	<20	30	<10

RBOCP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306240 - BOX ELDER GULCH NEAR RANGELY, CO.

PROCESS DATE 02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	TIME	DIS-SOLVED GROSS ALPHA AS U-NAT. (UG/L)	SUS-PENDED GROSS ALPHA AS U-NAT. (UG/L)	DIS-SOLVED GROSS BETA AS SR90 /Y90 (PC/L)	SUS-PENDED GROSS BETA AS SR90 /Y90 (PC/L)
MAR., 1976					
18...	1215	2.3	3.4	13	.7
JUNE					
24...	1045	11	<.4	4.8	<.4

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306240 - BOX ELDER GULCH NEAR RANGELY, CO.

PROCESS DATE /02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	TIME	TOTAL ALDRIN (UG/L)	TOTAL CHLOR-DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DI-AZINON (UG/L)	TOTAL DI-ELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)
MAR., 1976										
18...	1215	.00	.0	.00	.00	.00	.00	.00	.00	.00

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306240 - BOX ELDER GULCH NEAR RANGELY, CO.

PROCESS DATE 09/02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	TOTAL HEPTA-CHLOR (UG/L)	TOTAL HEPTA-CHLOR EPOXIDE (UG/L)	TOTAL LINDANE (UG/L)	TOTAL PCB (UG/L)	TOTAL TOX-APHENE (UG/L)	TOTAL TRI-THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
MAR., 1976									
18...	.00	.00	.00	.0	0	.00	.00	.00	.00

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY PROCESS DATE 09/02/76
09306241 - BOX ELDER GULCH TRIBUTARY NEAR RANGELY, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED ALUMINUM (AL) (UG/L)	DISSOLVED IRON (FE) (UG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)
FEB., 1976										
13...	1540	.43	5.0	250	280	11	2.2	24	2.3	89
MAR.										
18...	1310	.05	5.8	--	--	17	3.0	16	2.9	88

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY PROCESS DATE 06/02/76
09306241 - BOX ELDER GULCH TRIBUTARY NEAR RANGELY, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	CARBONATE (CO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED NITRITE PLUS NITRATE (N) (MG/L)	DISSOLVED AMMONIA NITROGEN (N) (MG/L)	DISSOLVED AMMONIA (NH4) (MG/L)	DISSOLVED ORGANIC NITROGEN (N) (MG/L)	DISSOLVED KJEL. NITROGEN (N) (MG/L)
FEB., 1976										
13...	0	73	6.8	1.8	.3	.72	.09	.12	1.0	1.1
MAR.										
18...	0	72	5.3	1.7	.2	.61	.05	.06	.34	.39

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY PROCESS DATE 09/02/76
09306241 - BOX ELDER GULCH TRIBUTARY NEAR RANGELY, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOLVED ORTHO. PHOS-PHORUS (P) (MG/L)	PHOS-PHATE (PO4) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO
FEB., 1976										
13...	.70	.08	2.1	102	.14	.12	37	0	57	1.7
MAR.										
18...	2.5	.03	7.7	98	.13	.01	55	0	37	.9

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF IN[illegible]IOR - GEOLOGICAL SURVEY PROCESS DATE [illegible]/02/76
09306241 - BOX ELDER GULCH TRIBUTARY NEAR RANGELY, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	DISSOLVED ORGANIC CARBON (C) (MG/L)	SUSPENDED ORGANIC CARBON (C) (MG/L)	DISSOLVED ARSENIC (AS) (UG/L)	DISSOLVED BORON (B) (UG/L)	DISSOLVED STRONTIUM (SR) (UG/L)
FEB., 1976									
13...	160	8.5	1.0	--	67	3.9	3	100	100
MAR.									
18...	190	8.4	8.0	130	34	>10	--	50	--

PROGR[illegible] REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY PROCESS DATE 09/02/76
09306241 - BOX ELDER GULCH TRIBUTARY NEAR RANGELY, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	DIS-SOLVED COPPER (CU) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED LITHIUM (LI) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED SELE-NIUM (SE) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)
FEB., 1976						
13...	13	10	10	.1	0	90

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY PROCESS DATE 09/02/76
09306241 - BOX ELDER GULCH TRIBUTARY NEAR RANGELY, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	TIME	CHEMICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L)	CYANIDE (CN) (MG/L)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)	DISSOLVED BARIUM (BA) (UG/L)	DISSOLVED CADMIUM (CD) (UG/L)	DISSOLVED CHROMIUM (CR) (UG/L)
FEB, 6 1975							
15...	1540	240	.00	.0	0	1	0

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306242 - CORRAL GULCH NE RANGELY, CO.

PROCESS DATE 08/02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED ALUMINUM (AL) (UG/L)	DISSOLVED IRON (FE) (UG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)
OCT., 1975											
24...	1300	.56	19	--	10	88	59	130	1.6	511	0
30...	1430	.56	20	--	40	80	63	110	1.6	502	0
NOV.											
18...	1150	.58	20	20	30	87	66	120	1.4	504	0
DEC.											
24...	1100	.50	20	30	20	89	60	110	1.7	512	0
JAN., 1976											
29...	1330	.42	20	10	10	85	63	110	1.5	441	0
FEB.											
18...	1400	.55	20	10	10	83	60	100	1.4	505	0
MAR.											
11...	1145	.35	21	20	<20	91	70	120	1.7	511	0
APR.											
15...	1345	.53	22	--	--	90	69	120	2.4	448	0
MAY											
13...	1045	--	21	--	--	87	65	110	1.5	481	0
JULY											
21...	1545	.75	21	--	--	82	55	98	1.7	442	0

REOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306242 - CORRAL GULCH NR RANGELY, CO.

PROCESS DATE 09/02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED AMMONIA NITRO-GEN (N) (MG/L)	DIS_ SOLVED AMMONIA (NH4) (MG/L)	DIS-SOLVED ORGANIC NITRO-GEN (N) (MG/L)	DIS-SOLVED KJEL. NITRO-GEN (N) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOLVED ORTHO. PHOS-PHORUS (P) (MG/L)
OCT., 1975											
24...	419	200	11	.6	.21	.02	.03	--	--	.03	.02
30...	412	290	10	.5	.26	.05	.06	--	--	.01	.02
NOV.											
18...	413	300	11	.4	.29	.00	.00	.34	.34	.03	.03
DEC.											
24...	420	280	8.5	.4	.26	.02	.03	.19	.21	.03	.03
JAN., 1976											
29...	362	310	10	.4	.34	.04	.05	.36	.40	.00	.01
FEB.											
18...	414	260	9.4	.4	.37	--	--	--	.22	.03	.05
MAR.											
11...	419	300	12	.4	.33	.04	.05	.07	.11	.04	.01
APR.											
15...	367	300	11	.4	.32	.09	.12	--	--	--	.01
MAY											
13...	395	280	12	.4	<.32	.10	.13	.25	.35	.16	.01
JULY											
21...	363	260	11	.4	.18	.03	.04	.89	.92	.04	.00

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306242 - CORRAL GULCH N[illegible] RANGELY, CO.

PROCESS DATE 09/02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	PHOS-PHATE (PO4) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)
OCT., 1975										
24...	.09	762	1.04	1.15	460	44	38	2.6	1300	8.0
30...	.03	824	1.12	1.25	460	47	34	2.2	1300	8.2
NOV.										
18...	.09	858	1.17	1.34	490	78	35	2.4	1150	7.8
DEC.										
24...	.09	825	1.12	1.11	470	51	34	2.2	1200	7.7
JAN., 1976										
29...	.00	821	1.12	.93	470	110	34	2.2	1200	7.8
FEB.										
18...	.09	787	1.07	1.17	460	42	32	2.0	1300	8.2
MAR.										
11...	.12	872	1.19	.82	520	98	34	2.3	1250	7.7
APR.										
15...	--	837	1.14	1.20	510	140	34	2.3	1300	7.5
MAY										
13...	.49	816	1.11	--	480	90	33	2.2	1200	8.2
JULY										
21...	.12	748	1.02	1.51	430	69	33	2.1	1320	7.8

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF IN[illegible]IOR - GEOLOGICAL SURVEY
09306242 - CORRAL GULCH N[illegible] RANGELY, CO.

PROCESS DATE [illegible]/02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	DISSOLVED OXYGEN (MG/L)	FECAL COLIFORM (COL. PER 100 ML)	STREPTOCOCCI (COLONIES PER 100 ML)	DISSOLVED ORGANIC CARBON (C) (MG/L)	SUSPENDED ORGANIC CARBON (C) (MG/L)	DISSOLVED ARSENIC (AS) (UG/L)	DISSOLVED BORON (B) (UG/L)	DISSOLVED STRONTIUM (SR) (UG/L)
OCT., 1975										
24...	9.0	4	9.2	--	--	--	--	5	150	--
30...	9.5	5	7.6	--	--	--	--	5	130	--
NOV.										
18...	8.0	4	12.0	--	--	14	.5	4	140	1900
DEC.										
24...	7.5	4	--	--	--	8.3	.4	4	110	1600
JAN., 1976										
29...	8.5	3	7.7	--	--	14	.3	4	140	2000
FEB.										
18...	.0	4	10.9	--	--	6.7	.3	4	120	1800
MAR.										
11...	9.0	4	10.0	2	2	4.2	.3	6	100	1700
APR.										
15...	12.0	0	7.0	--	--	--	--	--	150	--
MAY										
13...	13.0	0	10.1	--	--	--	--	--	180	--
JULY										
21...	22.0	12	6.9	--	--	12	1.1	--	120	--

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306242 - CORRAL GULCH NEAR RANGELY, CO.

PROCESS DATE 09/02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	TIME	DISSOLVED SULFIDE (S) (MG/L)	CHEMICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L)	CYANIDE (CN) (MG/L)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)	OIL AND GREASE (MG/L)	DISSOLVED BARIUM (BA) (UG/L)	DISSOLVED CADMIUM (CD) (UG/L)
OCT., 1975								
24...	1300	.0	--	.00	--	--	100	1
30...	1430	.0	--	.00	--	0	100	0
DEC.								
24...	1100	.1	11	.00	3.0	0	60	0
MAR., 1976								
11...	1145	.0	12	.00	.1	0	60	1

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306242 - CORRAL GULCH NEAR RANGELY, CO.

PROCESS DATE 09/02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	DIS-SOLVED CHRO-MIUM (CR) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED LITHIUM (LI) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED SELE-NIUM (SE) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)
OCT., 1975							
24...	4	7	0	10	.0	1	20
30...	0	1	3	10	.0	3	0
DEC.							
24...	<16	4	<16	10	.0	1	20
MAR., 1976							
11...	<20	3	<20	20	.0	2	10

REOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306242 - CORRAL GULCH NEAR RANGELY, CO.

PROCESS DATE 09/02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	TIME	DIS-SOLVED ALUM-INUM (AL) (UG/L)	DIS-SOLVED BARIUM (BA) (UG/L)	DIS-SOLVED BERYL-LIUM (BE) (UG/L)	DIS-SOLVED BISMUTH (BI) (UG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED CHRO-MIUM (CR) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED GALLIUM (GA) (UG/L)	DIS-SOLVED GER-MANIUM (GE) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)
DEC., 1975												
24...	1100	30	60	<4	<16	110	<16	<16	<8	<40	20	<16
MAR., 1976												
11...	1145	20	60	<4	<25	100	<20	<20	<7	<20	<20	<20
JUNE												
25...	1320	100	60	<7	<20	90	<15	<15	<7	<20	60	<15

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306242 - CORRAL GULCH NEAR RANGELY, CO.

PROCESS DATE 09/02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	DIS-SOLVED LITHIUM (LI) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED MOLYB-DENUM (MO) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	DIS-SOLVED SILVER (AG) (UG/L)	DIS-SOLVED STRON-TIUM (SR) (UG/L)	DIS-SOLVED TIN (SN) (UG/L)	DIS-SOLVED TI-TANIUM (TI) (UG/L)	DIS-SOLVED VANA-DIUM (V) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)	DIS-SOLVED ZIR-CONIUM (ZR) (UG/L)
DEC., 1975											
24...	10	30	45	<16	<2	1600	<16	<10	<16	20	<40
MAR., 1976											
11...	20	40	50	<20	<2	1700	<20	<10	<10	10	<30
JUNE											
25...	20	<20	50	<15	<2	1600	<15	<10	<15	20	<30

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306242 - CORRAL GULCH NEAR RANGELY, CO.

PROCESS DATE 09/02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	TIME	DIS-SOLVED GROSS ALPHA AS U-NAT. (UG/L)	SUS-PENDED GROSS ALPHA AS U-NAT. (UG/L)	DIS-SOLVED GROSS BETA AS SR90 /Y90 (PC/L)	SUS-PENDED GROSS BETA AS SR90 /Y90 (PC/L)	DIS-SOLVED RA-226 (RADON METHOD) (PC/L)
DEC., 1975						
24...	1100	<7.4	<.4	4.5	<.4	.05
MAR., 1976						
11...	1145	<8.7	<.4	2.5	1.2	--
JUNE						
25...	1315	<12	<.4	2.0	.5	--

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306242 - CORRAL GULCH NEAR RANGELY, CO.

PROCESS DATE 09/02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	TIME	TOTAL ALDRIN (UG/L)	TOTAL CHLOR-DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DI-AZINON (UG/L)	TOTAL DI-ELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)
JAN., 1976										
02...	1415	.00	.0	.00	.00	.00	.00	.00	.00	.00
MAR.										
11...	1145	.00	.0	.00	.00	.00	.00	.00	.00	.00

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306242 - CORRAL GULCH NEAR RANGELY, CO.

PROCESS DATE 09/02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	TOTAL HEPTA-CHLOR (UG/L)	TOTAL HEPTA-CHLOR EPOXIDE (UG/L)	TOTAL LINDANE (UG/L)	TOTAL PCB (UG/L)	TOTAL TOX-APHENE (UG/L)	TOTAL TRI-THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
JAN., 1976									
02...	.00	.00	.00	.0	0	.00	.00	.00	.00
MAR.									
11...	.00	.00	.00	.0	0	.00	.00	.00	.00

REOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306244 - CORRAL GULCH AT [illegible] RANCH, CO.

PROCESS DATE 09/02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED ALUMINUM (AL) (UG/L)	DISSOLVED IRON (FE) (UG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)
OCT., 1975											
24...	1400	.19	17	--	10	110	100	200	3.3	626	0
30...	1545	.19	17	--	60	110	110	180	3.0	627	0
NOV.											
18...	1300	.17	18	20	80	110	100	190	2.4	634	0
DEC.											
25...	1200	.09	18	10	10	110	110	180	2.8	634	0
JAN., 1976											
29...	1500	.01	17	10	20	110	110	190	2.6	638	0
FEB.											
18...	1440	.10	18	10	30	110	100	170	2.7	616	0
MAR.											
11...	1545	.07	20	<20	<30	110	97	170	3.0	596	0
MAY											
13...	1250	--	17	--	--	100	100	190	2.6	572	0

RDCSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306244 - CORRAL GULCH A[illegible]4 RANCH, CO.

PROCESS DATE 09/02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED AMMONIA NITRO-GEN (N) (MG/L)	DIS_ SOLVED AMMONIA (NH4) (MG/L)	DIS-SOLVED ORGANIC NITRO-GEN (N) (MG/L)	DIS-SOLVED KJEL. NITRO-GEN (N) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOLVED ORTHO. PHOS-PHORUS (P) (MG/L)
OCT., 1975											
24...	513	520	21	.3	.23	.00	.00	--	--	.01	.01
30...	514	590	19	.3	.32	.02	.03	--	--	.00	.01
NOV.											
18...	520	570	19	.3	.66	.02	.03	.98	1.0	.00	.01
DEC.											
25...	520	550	17	.3	.38	.10	.13	.61	.71	.03	.01
JAN., 1976											
29...	523	610	18	.3	.71	.05	.06	.71	.76	.00	.02
FEB.											
18...	505	510	19	.4	.85	.15	.19	.85	1.0	.05	.01
MAR.											
11...	489	490	16	.3	.68	.08	.10	.88	.96	.06	.03
MAY											
13...	469	520	17	.3	<.04	.04	.05	.42	.46	.85	.00

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306244 - CORRAL GULCH A[illegible]4 RANCH, CO.

PROCESS DATE [illegible]/02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	PHOSPHATE (PO4) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DISSOLVED SOLIDS (TONS PER AC-FT)	DISSOLVED SOLIDS (TONS PER DAY)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)
OCT., 1975										
24...	.03	1280	1.74	.66	690	170	39	3.3	1800	8.1
30...	.00	1340	1.82	.69	730	210	35	2.9	2000	8.3
NOV.										
18...	.00	1330	1.81	.61	690	170	38	3.2	1700	8.1
DEC.										
25...	.09	1310	1.78	.32	730	210	35	2.9	1700	7.9
JAN., 1976										
29...	.00	1380	1.88	.04	730	210	36	3.1	1750	7.8
FEB.										
18...	.15	1240	1.69	.33	690	180	35	2.8	1900	8.2
MAR.										
11...	.18	1210	1.65	.23	680	190	35	2.9	1700	8.3
MAY										
13...	2.6	1230	1.67	--	660	190	38	3.2	1820	8.2

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306244 - CORRAL GULCH AT 84 RANCH, CO.

PROCESS DATE 09/02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	DISSOLVED OXYGEN (MG/L)	FECAL COLIFORM (COL. PER 100 ML)	STREPTOCOCCI (COLONIES PER 100 ML)	DISSOLVED ORGANIC CARBON (C) (MG/L)	SUSPENDED ORGANIC CARBON (C) (MG/L)	DISSOLVED ARSENIC (AS) (UG/L)	DISSOLVED BORON (B) (UG/L)	DISSOLVED STRONTIUM (SR) (UG/L)
OCT., 1975										
24...	9.5	10	--	--	--	--	--	4	190	--
30...	9.0	0	9.0	--	--	--	--	4	170	--
NOV.										
18...	7.0	5	--	--	--	14	.0	3	190	2700
DEC.										
25...	6.0	8	--	--	--	9.6	.3	2	160	2700
JAN., 1976										
29...	6.0	4	5.1	--	--	11	.4	2	180	2800
FEB.										
18...	8.0	15	11.7	--	--	13	.7	2	160	2700
MAR.										
11...	9.0	15	13.4	82	92	13	.3	4	150	2300
MAY										
13...	21.0	5	9.2	--	--	7.4	--	--	40	--

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306244 - CORRAL GULCH A[illegible]4 RANCH, CO.

PROCESS DATE 09/02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	DIS-SOLVED CHRO-MIUM (CR) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED LITHIUM (LI) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED SELE-NIUM (SE) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)
OCT., 1975							
24...	10	2	3	10	.0	1	0
30...	0	1	3	5	.0	1	0
DEC.							
25...	0	6	2	10	.0	1	40
MAR., 1976							
11...	<25	2	<25	10	.0	2	10

REOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306244 - CORRAL GULCH AT 84 RANCH, CO.

PROCESS DATE 09/02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	TIME	DISSOLVED SULFIDE (S) (MG/L)	CHEMICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L)	CYANIDE (CN) (MG/L)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)	OIL AND GREASE (MG/L)	DISSOLVED BARIUM (BA) (UG/L)	DISSOLVED CADMIUM (CD) (UG/L)
OCT., 1975								
24...	1400	.0	--	.00	--	--	100	0
30...	1545	.1	--	.00	--	0	100	0
DEC.								
25...	1200	.0	11	.00	2.0	0	100	1
MAR., 1976								
11...	1545	.2	26	.00	.1	0	200	1

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF I[illegible]RIOR - GEOLOGICAL SURVEY
09306244 - CORRAL GULCH A[illegible] 84 RANCH, CO.

PROCESS DA[illegible]9/02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	TIME	DIS-SOLVED ALUM-INUM (AL) (UG/L)	DIS-SOLVED BARIUM (BA) (UG/L)	DIS-SOLVED BERYL-LIUM (BE) (UG/L)	DIS-SOLVED BISMUTH (BI) (UG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED CHRO-MIUM (CR) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED GALLIUM (GA) (UG/L)	DIS-SOLVED GER-MANIUM (GE) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)
DEC., 1975												
24...	1200	60	90	<5	<25	120	<25	<25	<10	<60	30	<25
MAR., 1976												
11...	1545	<20	200	<5	<35	150	<25	<25	<10	<30	<30	<25
JUNE												
26...	1420	40	100	<10	<40	140	<30	<30	<10	<40	30	<30

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306244 - CORRAL GULCH AT 84 RANCH, CO.

PROCESS DATE 09/02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	DIS-SOLVED LITHIUM (LI) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED MOLYB-DENUM (MO) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	DIS-SOLVED SILVER (AG) (UG/L)	DIS-SOLVED STRON-TIUM (SR) (UG/L)	DIS-SOLVED TIN (SN) (UG/L)	DIS-SOLVED TI-TANIUM (TI) (UG/L)	DIS-SOLVED VANA-DIUM (V) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)	DIS-SOLVED ZIR-CONIUM (ZR) (UG/L)
DEC., 1975											
24...	10	80	55	<25	<3	2000	<25	<20	<25	10	<60
MAR., 1976											
11...	10	60	60	<25	<3	2300	<20	<20	<15	10	<40
JUNE											
26...	20	220	60	<30	<4	2500	<30	<20	<30	20	<50

RECOP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306244 - CORRAL GULCH AT 84 RANCH, CO.

PROCESS DATE 09/02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	TIME	DIS-SOLVED GROSS ALPHA AS U-NAT. (UG/L)	SUS-PENDED GROSS ALPHA AS U-NAT. (UG/L)	DIS-SOLVED GROSS BETA AS SR90 /Y90 (PC/L)	SUS-PENDED GROSS BETA AS SR90 /Y90 (PC/L)	DIS-SOLVED RA-226 (RADON METHOD) (PC/L)
DEC., 1975						
25...	1200	<19	<.4	7.2	.6	.06
MAR., 1976						
11...	1545	<12	.4	9.5	1.1	.02
JUNE						
26...	1415	22	.6	14	1.2	--

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306244 - CORRAL GULCH AT 84 RANCH, CO.

PROCESS DATE 09/02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	TIME	TOTAL ALDRIN (UG/L)	TOTAL CHLOR-DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DI-AZINON (UG/L)	TOTAL DI-ELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)
JAN., 1976										
02...	1500	.00	.0	.00	.00	.00	.00	.00	.00	.00
MAR.										
11...	1545	.00	.0	.00	.00	.00	.00	.00	.00	.00

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306244 - CORRAL GULCH AT 84 RANCH, CO.

PROCESS DATE 09/02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	TOTAL HEPTA-CHLOR (UG/L)	TOTAL HEPTA-CHLOR EPOXIDE (UG/L)	TOTAL LINDANE (UG/L)	TOTAL PCB (UG/L)	TOTAL TOX-APHENE (UG/L)	TOTAL TRI-THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
JAN., 1976									
02...	.00	.00	.00	.0	0	.00	.00	.00	.00
MAR.									
11...	.00	.00	.00	.0	0	.00	.00	.00	.00

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY PROCESS DATE 09/02/76
09306246 - YELLOW CREEK TRIBUTARY NEAR 84 RANCH, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED ALUMINUM (AL) (UG/L)	DISSOLVED IRON (FE) (UG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)
FEB., 1976										
13...	1645	8.0	5.6	30	230	18	1.7	7.3	1.5	121

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306246 - YELLOW CREEK TRIBUTARY NEAR 84 RANCH, CO.

PROCESS DATE 06/02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	CARBONATE (CO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED NITRITE PLUS NITRATE (N) (MG/L)	DISSOLVED AMMONIA NITROGEN (N) (MG/L)	DISSOLVED AMMONIA (NH4) (MG/L)	DISSOLVED ORGANIC NITROGEN (N) (MG/L)	DISSOLVED KJEL. NITROGEN (N) (MG/L)
FEB., 1976										
13...	0	99	5.1	1.9	.1	.34	.76	.98	.34	1.1

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY PROCESS DATE 09/02/76
09306246 - YELLOW CREEK TRIBUTARY NEAR 84 RANCH, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOLVED ORTHO. PHOS-PHORUS (P) (MG/L)	PHOS-PHATE (PO4) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO
FEB., 1976										
13...	2.8	.05	8.6	104	.14	2.25	52	0	23	.4

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306246 - YELLOW CREEK TRIBUTARY NEAR 84 RANCH, CO.

PROCESS DATE 09/02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	DISSOLVED ORGANIC CARBON (C) (MG/L)	SUSPENDED ORGANIC CARBON (C) (MG/L)	DISSOLVED ARSENIC (AS) (UG/L)	DISSOLVED BORON (B) (UG/L)	DISSOLVED STRONTIUM (SR) (UG/L)
FEB., 1976									
13...	100	8.5	.5	450	76	6.6	1	110	180

RBOSP PROGRESS REPORT

UNITEO STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY PROCESS DATE 02/02/76
09306248 - DUCK CREEK AT UPPER STATION NEAR 84 RANCH, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED ALUMINUM (AL) (UG/L)	DISSOLVED IRON (FE) (UG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)
FEB., 1976										
13...	1745	2.1	5.2	230	170	20	5.6	18	15	131

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY PROCESS DATE 09/02/76
09306248 - DUCK CREEK AT UPPER STATION NEAR 84 RANCH, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	CARBONATE (CO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED NITRITE PLUS NITRATE (N) (MG/L)	DISSOLVED AMMONIA NITROGEN (N) (MG/L)	DISSOLVED AMMONIA (NH4) (MG/L)	DISSOLVED ORGANIC NITROGEN (N) (MG/L)
FEB., 1976									
13...	0	107	12	4.8	.1	.45	.65	.84	3.2

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY PROCESS DATE 09/02/76
09306248 - DUCK CREEK AT U[illegible]R STATION NEAR 84 RANCH, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	DIS-SOLVED KJEL. NITRO-GEN (N) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOLVED ORTHO. PHOS-PHORUS (P) (MG/L)	PHOS-PHATE (PO4) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)
FEB., 1976									
13...	3.8	.81	.16	2.5	149	.20	.87	73	0

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306248 - DUCK CREEK AT UPPER STATION NEAR 84 RANCH, CO. DISTRICT CODE 08

PROCESS DATE /02/76

WATER QUALITY DATA

DATE	PERCENT SODIUM	SODIUM ADSORPTION RATIO	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	DISSOLVED ARSENIC (AS) (UG/L)	DISSOLVED BORON (B) (UG/L)	DISSOLVED STRONTIUM (SR) (UG/L)
FEB., 1976									
13...	30	.9	220	8.3	.5	180	4	170	220

FBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY PROCESS DATE 09/02/76
09306248 - DUCK CREEK AT PUMPER STATION NEAR 84 RANCH, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	TIME	DISSOLVED SULFIDE (S) (MG/L)	CHEMICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L)	CYANIDE (CN) (MG/L)	OIL AND GREASE (MG/L)	DISSOLVED BARIUM (BA) (UG/L)	DISSOLVED CADMIUM (CD) (UG/L)
FEB., 1976							
14...	1810	.8	76	.00	2	100	<3

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF IN[illegible]IOR - GEOLOGICAL SURVEY PROCESS DATE [illegible]02/76
09306248 - DUCK CREEK AT U[illegible]ER STATION NEAR 84 RANCH, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	DIS-SOLVED CHRO-MIUM (CR) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED LITHIUM (LI) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED SELE-NIUM (SE) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)
FEB., 1976							
14...	<3	10	<4	2	.1	0	20

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY PROCESS DATE /02/76
09306248 - DUCK CREEK AT UPPER STATION NEAR 84 RANCH, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	TIME	DIS-SOLVED ALUM-INUM (AL) (UG/L)	DIS-SOLVED BARIUM (BA) (UG/L)	DIS-SOLVED BERYL-LIUM (BE) (UG/L)	DIS-SOLVED BISMUTH (BI) (UG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED CHRO-MIUM (CR) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED GALLIUM (GA) (UG/L)	DIS-SOLVED GER-MANIUM (GE) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)
FEB., 1976												
14...	1810	200	100	<1	<4	60	<3	<4	<2	<4	200	<4

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF IN[illegible]RIOR - GEOLOGICAL SURVEY PROCESS DATE [illegible]/02/76
09306248 - DUCK CREEK AT [illegible]ER STATION NEAR 84 RANCH, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	DIS-SOLVED LITHIUM (LI) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED MOLYB-DENUM (MO) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	DIS-SOLVED SILVER (AG) (UG/L)	DIS-SOLVED STRON-TIUM (SR) (UG/L)	DIS-SOLVED TIN (SN) (UG/L)	DIS-SOLVED TI-TANIUM (TI) (UG/L)	DIS-SOLVED VANA-DIUM (V) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)	DIS-SOLVED ZIR-CONIUM (ZR) (UG/L)
FEB., 1976											
14...	2	20	5	<4	<0	200	<4	10	<4.0	20	<8

RBOGP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY PROCESS DATE 03/02/76
09306248 - DUCK CREEK AT UPPER STATION NEAR 84 RANCH, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	TIME	DIS-SOLVED GROSS ALPHA AS U-NAT. (UG/L)	SUS-PENDED GROSS ALPHA AS U-NAT. (UG/L)	DIS-SOLVED GROSS BETA AS SR90 /Y90 (PC/L)	SUS-PENDED GROSS BETA AS SR90 /Y90 (PC/L)
FEB., 1976					
14...	1810	8.4	21	17	16

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306250 - DUCK CREEK NEAR RANCH, CO.

PROCESS DATE 09/02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED ALUMINUM (AL) (UG/L)	DISSOLVED IRON (FE) (UG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)
FEB., 1976										
14...	1730	.68	5.8	200	340	22	5.6	25	13	164

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306250 - DUCK CREEK NEAR RANCH, CO.

PROCESS DATE 08/02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	CARBONATE (CO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED NITRITE PLUS NITRATE (N) (MG/L)	DISSOLVED AMMONIA NITROGEN (N) (MG/L)	DISSOLVED AMMONIA (NH4) (MG/L)	DISSOLVED ORGANIC NITROGEN (N) (MG/L)
FEB., 1976									
14...	0	135	11	4.2	.1	.52	.34	.44	2.8

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306250 - DUCK CREEK NEAR RANCH, CO.

PROCESS DATE 06/02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	DIS-SOLVED KJEL. NITRO-GEN (N) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOLVED ORTHO. PHOS-PHORUS (P) (MG/L)	PHOS-PHATE (PO4) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)
FEB., 1976									
14...	3.1	.49	.17	1.5	172	.23	.32	78	0

REOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF IN[illegible]IOR - GEOLOGICAL SURVEY
09306250 - DUCK CREEK NEAR 84 RANCH, CO.

PROCESS DATE [illegible]02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED STRON-TIUM (SR) (UG/L)
FEB., 1976									
14...	37	1.2	320	8.7	.5	180	2	130	260

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF IN[illegible]RIOR - GEOLOGICAL SURVEY
09306250 - DUCK CREEK NEA[illegible]84 RANCH, CO.

PROCESS DATE [illegible]/02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	TIME	CHEMICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L)	CYANIDE (CN) (MG/L)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)	DISSOLVED BARIUM (BA) (UG/L)	DISSOLVED CADMIUM (CD) (UG/L)	DISSOLVED CHROMIUM (CR) (UG/L)
FEB., 1976							
14...	1730	87	.00	.0	100	1	0

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306250 - DUCK CREEK NEAR 84 RANCH, CO.

PROCESS DATE /02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	DIS-SOLVED COPPER (CU) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED LITHIUM (LI) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED SELE-NIUM (SE) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)
FEB., 1976						
14...	14	7	10	.1	0	50

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF IN[illegible]IOR - GEOLOGICAL SURVEY
09306250 - DUCK CREEK NEA[illegible] 84 RANCH, CO.

PROCESS DATE [illegible]/02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	TIME	DIS-SOLVED GROSS ALPHA AS U-NAT. (UG/L)	SUS-PENDED GROSS ALPHA AS U-NAT. (UG/L)	DIS-SOLVED GROSS BETA AS SR90 /Y90 (PC/L)	SUS-PENDED GROSS BETA AS SR90 /Y90 (PC/L)
FEB., 1976					
14...	1730	3.6	11	18	7.0

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306255 - YELLOW CREEK NE WHITE RIVER, CO.

PROCESS DATE 08/02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED ALUMINUM (AL) (UG/L)	DISSOLVED IRON (FE) (UG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)
OCT., 1975											
15...	1000	.92	6.4	--	0	32	120	800	4.3	1790	75
31...	1330	--	5.3	--	120	37	88	640	6.5	1300	82
NOV.											
21...	1130	2.4	8.9	70	70	37	110	850	4.1	1600	182
DEC.											
18...	1000	--	14	0	20	44	130	870	4.2	1680	172
JAN., 1976											
28...	1030	2.0	13	20	20	35	120	850	4.2	1460	283
FEB.											
26...	1100	3.5	14	50	20	39	110	640	4.1	596	478
MAR.											
30...	1000	--	12	110	70	34	100	830	7.0	1380	240
APR.											
09...	1325	2.1	11	--	--	32	110	800	5.0	1580	136
MAY											
25...	1320	--	9.6	--	--	7.4	120	850	4.4	1860	207

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306255 - YELLOW CREEK NE WHITE RIVER, CO.

PROCESS DATE 09/02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED AMMONIA NITRO-GEN (N) (MG/L)	DIS_ SOLVED AMMONIA (NH4) (MG/L)	DIS-SOLVED ORGANIC NITRO-GEN (N) (MG/L)	DIS-SOLVED KJEL. NITRO-GEN (N) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOLVED ORTHO. PHOS-PHORUS (P) (MG/L)
OCT., 1975											
15...	1590	580	130	2.1	.66	.03	.04	--	--	.02	.00
31...	1200	510	110	1.8	.56	.01	.01	--	--	.28	.01
NOV.											
21...	1620	560	150	2.4	1.5	.00	.00	.63	.63	.00	.01
DEC.											
18...	1660	660	130	2.4	1.4	.22	.28	.78	1.0	.11	.07
JAN., 1976											
28...	1670	570	150	2.5	1.6	.27	.35	.73	1.0	.16	.09
FEB.											
26...	1280	520	130	2.0	1.2	.23	.30	.67	.90	.46	.07
MAR.											
30...	1530	570	140	2.4	1.0	.14	.18	--	--	.12	.09
APR.											
09...	1520	630	140	2.6	.51	.00	.00	.47	.47	.24	.03
MAY											
25...	1870	620	140	2.6	.01	.03	.04	.41	.44	.07	.00

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306255 - YELLOW CREEK NEAR WHITE RIVER, CO.

PROCESS DATE 09/02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	PHOS-PHATE (PO4) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)
OCT., 1975										
15...	.06	2640	3.59	6.56	570	0	75	15	4000	8.6
31...	.86	2130	2.90	--	450	0	75	13	3500	8.8
NOV.										
21...	.00	2700	3.67	18.0	550	0	77	16	5000	8.4
DEC.										
18...	.34	2870	3.90	--	650	0	74	15	4000	8.5
JAN., 1976										
28...	.49	2760	3.75	15.2	590	0	76	15	3880	8.7
FEB.										
26...	1.4	2240	3.05	21.4	550	0	72	12	2300	8.7
MAR.										
30...	.37	2620	3.56	--	500	0	78	16	3700	8.7
APR.										
09...	.74	2650	3.60	15.3	530	0	76	15	4000	8.6
MAY										
25...	.21	2880	3.92	--	510	0	78	16	3500	8.8

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306255 - YELLOW CREEK NEAR WHITE RIVER, CO.

PROCESS DATE /02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	DISSOLVED OXYGEN (MG/L)	FECAL COLIFORM (COL. PER 100 ML)	STREPTOCOCCI (COLONIES PER 100 ML)	DISSOLVED ORGANIC CARBON (C) (MG/L)	SUSPENDED ORGANIC CARBON (C) (MG/L)	DISSOLVED ARSENIC (AS) (UG/L)	DISSOLVED BORON (B) (UG/L)	DISSOLVED STRONTIUM (SR) (UG/L)
OCT., 1975										
15...	1.5	10	--	--	--	--	--	5	690	--
31...	10.0	80	--	--	--	--	--	5	610	--
NOV.										
21...	.0	13	12.5	B36	10000	14	.2	4	750	3500
DEC.										
18...	.0	4	12.5	--	--	7.7	--	4	690	3800
JAN., 1976										
28...	.0	5	12.2	--	--	6.9	--	4	690	3100
FEB.										
26...	1.0	20	10.9	B600	B170	11	2.4	6	580	3200
MAR.										
30...	1.0	10	11.1	--	--	12	1.1	--	780	350
APR.										
09...	16.0	20	8.5	420	280	--	1.0	--	680	--
MAY										
25...	27.0	22	--	460	--	4.3	--	--	750	--

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306255 - YELLOW CREEK NEAR WHITE RIVER, CO.

PROCESS DATE 09/02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	TIME	DISSOLVED SULFIDE (S) (MG/L)	CHEMICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L)	CYANIDE (CN) (MG/L)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)	OIL AND GREASE (MG/L)	DISSOLVED BARIUM (BA) (UG/L)	DISSOLVED CADMIUM (CD) (UG/L)
OCT., 1975								
15...	1000	.2	--	.00	--	0	200	0
31...	1330	.0	--	.00	--	--	100	1
DEC.								
18...	1000	.0	17	.00	2.0	0	600	1
MAR., 1976								
30...	1000	.6	15	.00	.3	0	20	1

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306255 - YELLOW CREEK NEAR WHITE RIVER, CO.

PROCESS DATE [illegible]/02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	DIS-SOLVED CHRO-MIUM (CR) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED LITHIUM (LI) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED SELE-NIUM (SE) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)
OCT., 1975							
15...	0	0	0	150	.1	2	10
31...	4	5	1	100	.0	3	2
DEC.							
18...	0	4	3	160	.0	2	0
MAR., 1976							
30...	<50	6	<50	150	.0	1	0

REOGP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306255 - YELLOW CREEK NEAR WHITE RIVER, CO.

PROCESS DATE [illegible]/02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	DIS-SOLVED LITHIUM (LI) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED MOLYB-DENUM (MO) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	DIS-SOLVED SILVER (AG) (UG/L)	DIS-SOLVED STRON-TIUM (SR) (UG/L)	DIS-SOLVED TIN (SN) (UG/L)	DIS-SOLVED TI-TANIUM (TI) (UG/L)	DIS-SOLVED VANA-DIUM (V) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)	DIS-SOLVED ZIR-CONIUM (ZR) (UG/L)
DEC., 1975											
18...	160	<50	70	<45	<5	3600	<50	<30	<40	10	<100
MAR., 1976											
30...	150	<30	80	<50	<5	350	<50	<20	<40	0	<100
JUNE											
23...	200	<30	40	<50	<5	3500	<50	<30	<50	0	<100

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306255 - YELLOW CREEK NEAR WHITE RIVER, CO.

PROCESS DATE 09/02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	TIME	DIS-SOLVED ALUM-INUM (AL) (UG/L)	DIS-SOLVED BARIUM (BA) (UG/L)	DIS-SOLVED BERYL-LIUM (BE) (UG/L)	DIS-SOLVED BISMUTH (BI) (UG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED CHRO-MIUM (CR) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED GALLIUM (GA) (UG/L)	DIS-SOLVED GER-MANIUM (GE) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)
DEC., 1975												
18...	1005	60	300	<10	<50	700	<40	<45	<10	<50	70	<45
MAR., 1976												
30...	1000	110	20	<10	<70	780	<50	<50	<20	<70	70	<50
JUNE												
23...	1010	100	100	<20	<70	820	<50	<50	<20	<70	80	<50

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306255 - YELLOW CREEK NEAR WHITE RIVER, CO.

PROCESS DATE 09/02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	TIME	DIS-SOLVED GROSS ALPHA AS U-NAT. (UG/L)	SUS-PENDED GROSS ALPHA AS U-NAT. (UG/L)	DIS-SOLVED GROSS BETA AS SR90 /Y90 (PC/L)	SUS-PENDED GROSS BETA AS SR90 /Y90 (PC/L)
DEC., 1975					
18...	1000	<25	6.0	12	2.7
MAR., 1976					
30...	1000	<24	96	14	39
JUNE					
23...	1010	50	1.1	<6.2	1.2

RBCSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306255 - YELLOW CREEK NEAR WHITE RIVER, CO.

PROCESS DATE /02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	TIME	TOTAL ALDRIN (UG/L)	TOTAL CHLOR-DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DI-AZINON (UG/L)	TOTAL DI-ELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)
DEC., 1975										
18...	1000	.00	.0	.00	.00	.00	.00	.00	.00	.00
MAR., 1976										
30...	1000	.00	.0	.00	.00	.00	.00	.00	.00	.00

RBOSP PROGRESS REPORT

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306255 - YELLOW CREEK NEAR WHITE RIVER, CO.

PROCESS DATE /02/76
DISTRICT CODE 08

WATER QUALITY DATA

DATE	TOTAL HEPTA-CHLOR (UG/L)	TOTAL HEPTA-CHLOR EPOXIDE (UG/L)	TOTAL LINDANE (UG/L)	TOTAL PCB (UG/L)	TOTAL TOX-APHENE (UG/L)	TOTAL TRI-THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
DEC., 1975									
18...	.00	.00	.00	.0	0	.00	.00	.00	.00
MAR., 1976									
30...	.00	.00	.00	.0	0	.00	.00	.00	.00

REOSP PROGRESS REPORT

ALLUVIAL AQUIFERS

SECTION 1.2.3

WET CHEMICAL AND SPECTROGRAPHIC ANALYSES, ALLUVIAL TEST HOLES

RBOSP PROGRESS REPORT

EXPLANATION -- WATER QUALITY COMPUTER OUTPUT SHEETS

1. Code Hole Description Data

Job # 741-40

Assigned project number for Rio Blanco Oil Shale Project by Wright Water Engineers, Inc

X = Distance in feet, north of baseline 7200 feet Datum of the Colorado State Coordinate System

Y = Distance, in feet, east of the baseline 7200 foot Datum of the Colorado State Coordinate System

Z = Elevation in feet above sea of the core hole at ground surface

Date Drill Compl.

The date when drilling was completed on the Core Hole.

Conv. to Monitor

Date the Core Hole was converted to a Monitor Hole.

Aquifer 1:

Depth in feet to the top and bottom of the upper aquifer from G.L.

Aquifer 2:

Depth in feet to the top and bottom of the lower aquifer from G.C.

2. Sample Description Data

Date

Date water sample was collected.

Depth

Depth for Method 1: depth sample was collected during drilling.

Depth for Method 2: depth sample was collected during pumping test.

Depth for Method 3: the static water level of the hole when sampled.

Temp.

Field temperature of sample (^{o}F)

Lab Num.

Designation number assigned by the analyzing laboratory.

RBOSP PROGRESS REPORT

Method

1 Drilling program sample

2 Pumping test program sample

3 Sampling program sample

4 Drilling seep sample

Aquif. Log

U Sample from upper aquifer

L Sample from lower aquifer

C Sample combined from upper and lower

3. Wet -- Wet chemical analysis

Values are in milligrams per liter, except for:

Gross Alpha - picocuries per liter

Gross Beta - picocuries per liter

pL - standard ph values

Conauctance - microhmos per cm

Negative values indicate trace amounts.

0.0 value - element not tested for.

Spectrographic - spectrographic analysis of sample.

All values are in milligrams per liter.

0.0 means trace amount

99999.0 means major amount.

RBOSP PROGRESS REPORT

JCB#-741-40F OWNER-RIO BLANCO OIL SHALE PROJECT LOCATIONS: X- 149963.09 Y- 223340.39 Z- 6986.42
DATE DRILL COMPL-120475 DATE CONV TO MONITOR- 0 AQUIFER 1: 0.0 - 0.0 FT AQUIFER 2: 0.0 - 0.0 FT

SAMPLES	1	2	3	4	5	6	7	8	9	10	11	12
DATE	33175	41575	42975	51475	52975	61175	63075	71575	80575	82775	101075	112075
DEPTH	0.0	20.70	21.04	21.74	21.85	22.10	22.36	24.88	25.46	24.28	24.80	23.70
TEMP	47.3	47.1	49.1	47.8	49.3	49.6	52.3	50.0	50.0	54.1	51.8	48.2
LAB ID												
LAB NUM	9023	184	185	436	437	898	2260	1542	2048	2764	3442	4656
METHOD	3	3	3	3	3	3	3	3	3	3	3	3
AQUIF.LOC.	A	A	A	A	A	A	A	A	A	A	A	A
WET												
ALUMINUM	-0.100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AMMONIA	0.0	0.400	-0.100	0.200	0.200	0.400	0.0	0.300	-0.100	0.500	-0.100	0.800
ARSENIC	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	0.010	-0.010	-0.010	-0.010	-0.010
BICARBONAT	480.000	490.000	455.000	460.000	410.000	430.000	435.000	445.000	470.000	470.000	450.000	470.000
CADMIUM	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	0.030
CALCIUM	77.000	90.000	84.000	80.000	120.000	98.000	130.000	98.000	90.000	44.000	140.000	140.000
CARBONATE	-0.100	-0.100	-0.100	-0.100	24.000	-0.100	-0.100	-0.100	-0.100	-0.100	-0.100	-0.100
CHLORIDE	12.000	14.000	9.600	17.000	7.000	14.000	6.800	6.900	8.200	12.000	14.000	6.700
CHROMIUM	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010
COPPER	-0.010	0.100	-0.100	-0.100	-0.100	0.100	-0.100	-0.100	0.100	-0.100	0.100	0.300
FLUORIDE	0.200	0.400	0.400	0.400	0.400	0.400	0.200	0.400	0.600	0.400	0.700	0.400
HYDROXIDE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IRON	-0.050	4.800	0.300	9.100	15.000	8.300	0.300	12.000	9.500	8.100	0.600	7.900
LEAD	0.020	0.100	0.070	0.500	0.200	0.100	0.100	0.040	0.090	0.500	0.040	0.200
MAGNESIUM	45.000	47.000	35.000	56.000	7.300	52.000	29.000	57.000	59.000	85.000	37.000	26.000
MERCURY	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.002	-0.002	-0.002	-0.002	-0.002	-0.001
NITRATE	3.900	4.800	5.200	4.700	0.200	4.500	3.900	3.900	4.900	3.500	3.100	2.500
PHOSPHATE	-0.100	-0.100	-0.100	-0.100	-0.010	-0.100	-0.100	-0.100	-0.100	-0.100	-0.100	-0.100
POTASSIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SELENIUM	-0.010	-0.010	-0.010	-0.100	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010
SIL DIOXID	27.000	23.000	22.000	26.000	28.000	26.000	27.000	30.000	29.000	29.000	31.000	29.000
SODIUM	160.000	145.000	155.000	75.000	190.000	100.000	115.000	90.000	145.000	130.000	110.000	130.000
SULFATE	280.000	275.000	270.000	150.000	300.000	250.000	280.000	250.000	330.000	285.000	280.000	280.000
SULFIDE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ZINC	0.010	0.200	-0.100	0.200	0.300	0.300	0.300	0.600	0.200	0.800	0.200	0.600
GROS ALPHA	0.0	6.300	7.400	5.600	5.000	6.000	4.800	4.100	6.000	5.100	5.500	15.000
GROSS BETA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.000	0.0	0.0
HARDNESS	375.000	420.000	355.000	430.000	330.000	460.000	450.000	480.000	470.000	460.000	500.000	450.000
PH	6.400	6.400	6.400	6.800	6.100	6.000	6.800	6.800	6.800	6.800	6.300	6.200
CONDUCTANC	990.000	1120.000	1050.000	1120.000	1065.000	1140.000	1440.000	1104.000	1056.000	1130.000	960.000	1110.000
DIS SOLIDS	840.000	840.000	810.000	640.000	890.000	760.000	800.000	765.000	905.000	820.000	840.000	840.000
MANGANESE	-0.050	-0.050	1.900	0.100	0.400	0.500	0.100	0.200	1.000	0.800	0.200	4.000
ALKALINITY	395.000	400.000	375.000	395.100	360.000	350.000	355.000	365.000	385.000	385.000	370.000	385.000
CYANIDE	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010
BORON	1.100	2.900	1.900	-0.010	-0.010	0.100	0.070	-0.010	0.020	9.600	-0.010	-0.100
BARIUM	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000
SILVER	-0.010	-0.010	-0.010	-0.010	-0.010	0.010	-0.100	-0.010	-0.010	-0.010	-0.010	-0.010
NICKEL	0.030	0.040	0.020	0.020	0.040	0.060	0.010	0.030	0.030	0.050	0.010	0.100
LITHIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DOC	0.0	19.000	9.000	14.000	15.000	35.000	8.000	28.000	28.000	18.000	30.000	63.000
NITRITE-N	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BROMIDE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RBOSP PROGRESS REPORT

SAMPLES	1	2	3	4	5	6	7	8	9	10	11	12
C.O.D.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHENOLS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KJELDAHL N	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BERYLLIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MOLYBDENUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STRONTIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VANADIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ORTHO PHOS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AMMONIA-N	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DIS-ORG C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MBAS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT COLIF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FEC COLIF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SPECTROGRAPHIC												
ALUMINUM	0.100	0.500	0.100	0.050	0.100	0.050	0.100	0.100	0.100	0.100	0.010	0.100
ANTIMONY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARSENIC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BARIUM	0.0	0.0	0.0	0.0	0.001	0.001	0.001	0.001	0.010	0.0	0.0	0.001
BERYLIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BISMUTH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BORON	0.200	0.500	0.200	0.500	0.200	0.500	0.200	0.500	0.500	0.500	0.200	0.500
CADMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CALCIUM	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	10.000	10.000	99999.000
CERIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CESIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CHROMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COBALT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COLUMBIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COPPER	0.001	0.010	0.001	0.001	0.010	0.010	0.010	0.020	0.001	0.001	0.010	0.010
DYSPROSIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ERBIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EUROPIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GADOLINIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GALLIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GERMANIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GOLD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HAFNIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HOLMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
INDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IRIDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IRON	0.020	0.050	0.050	0.010	0.100	0.050	0.050	0.020	0.050	0.010	0.050	0.050
LANTHANUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LEAD	0.0	0.0	0.001	0.0	0.0	0.0	0.0	0.001	0.0	0.0	0.001	0.0
LITHIUM	0.010	0.001	0.001	0.0	0.001	0.001	0.0	0.010	0.010	0.0	0.001	0.001
LUTETIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAGNESIUM	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	5.000	5.000	99999.000
MANGANESE	0.010	0.005	0.010	0.001	0.010	0.001	0.001	0.050	0.001	0.001	0.001	0.020
MERCURY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MOLYBDENUM	0.050	0.0	0.005	0.001	0.010	0.002	0.0	0.001	0.0	0.0	0.001	0.001
NEODYMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NICKEL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PALLADIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PLATINUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RBOSP PROGRESS IMPORT

SAMPLES	1	2	3	4	5	6	7	8	9	10	11	12
POTASSIUM	0.100	1.000	2.000	0.100	1.000	0.100	1.000	1.000	1.000	1.000	1.000	0.500
PRASEODYMI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RADIUM	0.100	0.100	0.0	0.0	0.100	0.300	0.0	0.100	0.300	0.0	0.200	0.200
RHENIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RHODIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RUTHENIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RUBIDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SAMARIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SCANDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SELENIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SILICON	20.000	5.000	5.000	2.000	5.000	2.000	2.000	10.000	2.000	5.000	5.000	2.000
SILVER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	0.0	0.0	0.0	0.0
SODIUM	99999.000	5.000	10.000	2.000	10.000	5.000	10.000	99999.000	99999.000	99999.000	99999.000	2.000
STRONTIUM	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.010	0.100	0.100
TANTALUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TERBIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THALLIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THORIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THULIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TIN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TITANIUM	0.001	0.0	0.001	0.010	0.010	0.005	0.001	0.020	0.001	0.005	0.0	0.001
TUNGSTEN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
URANIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VANADIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YTTERBIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YTTRIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ZINC	0.0	0.001	0.0	0.0	0.001	0.0	0.0	0.0	0.0	0.0	0.001	0.0
ZIRCONIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RBOSP PROGRESS REPORT

JOB#-741-40F OWNER-RIO BLANCO OIL SHALE PROJECT LOCATIONS: X- 149963.09 Y- 223340.39 Z- 6986.42
DATE DRILL COMPL-120475 DATE CONV TO MONITOR- 0 AQUIFER 1: 0.0 - 0.0 FT AQUIFER 2: 0.0 - 0.0 FT

SAMPLES	13	14	15	16	17	18	19	20
DATE	121275	12876	21776	41376	52176	62176	73176	82976
DEPTH	22.23	20.29	18.73	15.15	21.31	22.17	24.38	34.57
TEMP	48.5	46.0	44.6	43.0	47.3	44.0	52.0	49.8
LAB ID								
LAB NUM	5235	6299	6758	8368	9524	641	1502	2138
METHOD	3	3	3	3	3	3	3	3
AQUIF.LOC.	A	A	A	A	A	A	A	A
WET								
ALUMINUM	0.0	0.0	0.0	-0.100	0.0	0.0	0.0	0.0
AMMONIA	-0.100	-0.100	1.400	0.280	0.200	0.0	0.0	0.200
ARSENIC	-0.010	-0.100	-0.100	-0.010	-0.010	0.0	0.0	0.0
BICARBONAT	470.000	445.000	450.000	360.000	425.000	415.000	410.000	415.000
CADMIUM	0.400	0.010	0.020	0.020	-0.010	0.0	0.0	0.0
CALCIUM	88.000	67.000	80.000	120.000	120.000	87.000	90.000	81.000
CARBONATE	-0.100	-0.100	-0.100	21.000	-0.100	-0.100	-0.100	-0.100
CHLORIDE	9.800	5.400	1.300	7.000	20.000	9.900	9.900	5.700
CHROMIUM	-0.010	-0.010	-0.010	0.100	-0.010	0.0	0.0	0.0
COPPER	0.500	0.300	0.300	0.300	-0.100	0.0	0.0	0.0
FLUORIDE	0.400	0.200	0.300	0.400	0.400	0.200	0.300	0.200
HYDROXIDE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IRON	9.000	7.500	15.000	0.200	-0.050	-0.050	-0.050	-0.050
LEAD	0.100	0.200	0.080	0.300	0.020	0.0	0.0	0.0
MAGNESIUM	60.000	67.000	39.000	41.000	39.000	51.000	57.000	66.000
MERCURY	-0.001	-0.001	-0.001	-0.001	-0.001	0.0	0.0	0.0
NITRATE	3.100	3.200	4.400	1.100	3.900	12.000	3.300	2.500
PHOSPHATE	-0.100	-0.100	0.100	-0.100	-0.100	0.100	-0.100	0.200
POTASSIUM	0.0	0.0	0.0	3.500	-1.000	8.000	2.000	4.000
SELENIUM	-0.010	-0.010	-0.010	-0.010	-0.010	0.0	0.0	0.0
SIL DIOXID	26.000	29.000	27.000	25.000	25.000	28.000	29.000	17.000
SODIUM	125.000	140.000	180.000	90.000	110.000	145.000	125.000	94.000
SULFATE	260.000	315.000	295.000	285.000	285.000	300.000	335.000	350.000
SULFIDE	0.0	0.0	0.0	-0.100	-0.100	0.0	0.0	0.0
ZINC	0.500	0.700	0.300	0.800	-0.100	0.0	0.0	0.0
GROS ALPHA	10.000	24.000	0.0	0.0	0.0	0.0	0.0	0.0
GROSS BETA	11.000	18.000	0.0	0.0	0.0	0.0	0.0	0.0
HARDNESS	470.000	440.000	360.000	0.0	455.000	430.000	460.000	0.0
PH	6.100	6.400	6.400	6.300	6.000	6.100	6.600	0.0
CONDUCTANC	1035.000	1177.000	1100.000	1040.000	1160.000	1070.000	1180.000	1130.000
DIS SOLIDS	810.000	780.000	910.000	700.000	820.000	945.000	740.000	800.000
MANGANESE	3.300	2.300	1.800	0.800	-0.050	-0.050	-0.050	0.0
ALKALINITY	385.000	365.000	370.000	310.000	350.000	340.000	335.000	340.000
CYANIDE	0.020	-0.010	-0.010	-0.010	-0.010	0.0	0.0	0.0
BORON	-0.100	0.300	0.100	2.200	0.100	0.100	0.0	0.600
BARIUM	-1.000	-1.000	-1.000	0.0	0.0	0.0	0.0	0.0
SILVER	0.010	0.020	0.030	0.0	0.0	0.0	0.0	0.0
NICKEL	0.090	0.090	0.060	0.0	0.0	0.0	0.0	0.0
LITHIUM	0.0	0.0	0.0	-0.100	0.100	0.0	0.0	0.0
DOC	50.000	7.000	0.0	4.600	0.0	0.0	5.000	0.0
NITRITE-N	0.0	0.0	0.0	-0.020	-0.100	-0.100	-0.010	0.0
BROMIDE	0.0	0.0	0.0	0.800	0.0	0.0	0.0	0.0

RBOSP PROGRESS REPORT

SAMPLES	13	14	15	16	17	18	19	20
C.O.D.	0.0	0.0	0.0	5.000	16.000	0.0	0.0	0.0
PHENOLS	0.0	0.0	0.0	-0.001	-0.001	0.0	0.0	0.0
KJELDAHL N	0.0	0.0	0.0	0.300	2.000	3.400	-0.100	2.000
BERYLLIUM	0.0	0.0	0.0	0.0	0.100	0.0	0.0	0.0
MOLYBDENUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STRONTIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VANADIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ORTHO PHOS	0.0	0.0	0.0	0.0	-0.100	-0.100	-0.100	0.100
AMMONIA-N	0.0	0.0	0.0	0.0	0.0	0.900	-0.100	0.0
DIS-ORG C	0.0	0.0	0.0	0.0	0.0	3.000	0.0	0.0
MBAS	0.0	0.0	0.0	0.0	0.0	0.0	-0.010	0.0
TOT COLIF	0.0	0.0	0.0	0.0	0.0	0.0	250.000	0.0
FEC COLIF	0.0	0.0	0.0	0.0	0.0	0.0	40.000	0.0
SPECTROGRAPHIC								
ALUMINUM	1.000	2.000	0.500	0.0	0.100	0.0	0.010	0.0
ANTIMONY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARSENIC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BARIUM	0.001	0.050	0.010	0.0	0.0	0.0	0.010	0.0
BERYLIUM	0.0	0.001	0.0	0.0	0.0	0.0	0.0	0.0
BISMUTH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BORON	0.500	0.010	0.500	0.0	0.200	0.0	0.200	0.0
CADMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CALCIUM	99999.000	99999.000	99999.000	0.0	99999.000	0.0	99999.000	0.0
CERIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CESIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CHROMIUM	0.0	0.001	0.001	0.0	0.0	0.0	0.0	0.0
COBOLT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COLUMBIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COPPER	0.010	0.050	0.010	0.0	0.010	0.0	0.001	0.0
DYSPROSIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ERBIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EUROPIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GADOLINIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GALLIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GERMANIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GOLD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HAFNIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HOLMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
INDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IRIDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IRON	0.500	2.000	0.500	0.0	0.010	0.0	0.020	0.0
LANTHANUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LEAD	0.0	0.100	0.001	0.0	0.001	0.0	0.0	0.0
LITHIUM	0.001	0.001	0.001	0.0	0.0	0.0	0.001	0.0
LUTETIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAGNESIUM	99999.000	99999.000	99999.000	0.0	99999.000	0.0	99999.000	0.0
MANGANESE	0.100	0.500	0.050	0.0	0.010	0.0	0.010	0.0
MERCURY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MOLYBDENUM	0.0	0.0	0.010	0.0	0.010	0.0	0.020	0.0
NEODYMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NICKEL	0.0	0.001	0.0	0.0	0.0	0.0	0.0	0.0
OSMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PALLADIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PLATINUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RBOSP PROGRESS REPORT

0000-121 NNN

SAMPLES	13	14	15	16	17	18	19	20
POTASSIUM	1.000	0.010	0.010	0.0	0.100	0.0	0.010	0.0
PRASEODYMI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RADIUM	0.400	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RHENIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RHODIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RUBIDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RUTHENIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SAMARIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SCANDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SELENIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SILICON	5.000	10.000	5.000	0.0	5.000	0.0	5.000	0.0
SILVER	0.001	0.010	0.0	0.0	0.0	0.0	0.0	0.0
SODIUM	5.000	5.000	5.000	0.0	5.000	0.0	5.000	0.0
STRONTIUM	0.100	0.100	0.100	0.0	0.100	0.0	0.100	0.0
TANTALUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TERBIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THALLIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THORIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THULIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TIN	0.001	0.0	0.0	0.0	0.001	0.0	0.0	0.0
TITANIUM	0.010	0.100	0.010	0.0	0.001	0.0	0.0	0.0
TUNGSTEN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
URANIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VANADIUM	0.0	0.010	0.0	0.0	0.0	0.0	0.0	0.0
YTTERBIUM	0.0	0.001	0.0	0.0	0.0	0.0	0.0	0.0
YTTRIUM	0.0	0.010	0.0	0.0	0.0	0.0	0.0	0.0
ZINC	0.0	0.010	0.0	0.0	0.0	0.0	0.0	0.0
ZIRCONIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RBOSP PROGRESS REPORT

JOB#-741-40F OWNER-RIO BLANCO OIL SHALE PROJECT LOCATIONS: X- 152023.39 Y- 218255.72 Z- 6929.06
DATE DRILL COMPL-120475 DATE CONV TO MONITOR- 0 AQUIFER 1: 0.0 - 0.0 FT AQUIFER 2: 0.0 - 0.0 FT

SAMPLES	1	2	3	4	5	6	7	8	9	10	11	12
DATE	32975	41575	42975	51475	52975	61175	63075	71575	80575	82875	100975	112175
DEPTH	37.14	39.06	38.92	37.88	30.72	29.00	24.95	29.82	31.31	31.99	35.33	36.81
TEMP	46.2	47.8	57.2	50.5	49.6	51.8	52.0	51.4	50.6	48.0	47.7	46.9
LAB ID												
LAB NUM	9024	186	187	438	439	899	2261	1543	2049	2765	3443	4657
METHOD	3	3	3	3	3	3	3	3	3	3	3	3
AQUIF.LOC.	A	A	A	A	A	A	A	A	A	A	A	A
WET												
ALUMINUM	-0.100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AMMONIA	1.000	0.600	0.200	0.900	0.200	0.400	0.0	0.200	-0.100	0.200	-0.100	0.200
ARSENIC	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010
BICARBONAT	495.000	510.000	510.000	440.000	370.000	380.000	435.000	450.000	460.000	460.000	430.000	440.000
CADMIUM	-0.010	-0.010	-0.010	0.030	0.010	0.010	0.040	0.020	-0.010	-0.010	-0.010	0.020
CALCIUM	64.000	90.000	60.000	85.000	85.000	110.000	80.000	88.000	77.000	39.000	90.000	110.000
CARBONATE	-0.100	-0.100	-0.100	15.000	36.000	27.000	-0.100	-0.100	-0.100	-0.100	-0.100	-0.100
CHLORIDE	8.300	14.000	11.000	14.000	14.000	14.000	8.200	34.000	9.500	15.000	21.000	16.000
CHROMIUM	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010
COPPER	-0.010	-0.100	-0.100	-0.010	-0.100	0.100	-0.100	-0.100	0.300	0.100	-0.100	0.100
FLUORIDE	0.300	0.400	0.0	0.400	0.300	0.300	0.200	0.400	0.600	0.400	0.700	0.300
HYDROXIDE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IRON	-0.050	-0.050	3.100	9.200	28.000	6.500	8.300	15.800	3.100	8.800	0.900	0.300
LEAD	0.040	0.070	0.200	0.200	0.300	0.200	0.060	0.070	0.200	0.300	0.060	0.200
MAGNESIUM	40.000	26.000	35.000	16.000	31.000	35.000	60.000	52.000	56.000	71.000	57.000	32.000
MERCURY	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.002	-0.002	-0.002	-0.002	-0.002	-0.001
NITRATE	1.000	5.100	3.400	5.000	0.100	4.200	4.900	3.400	3.300	3.400	3.700	2.200
PHOSPHATE	-0.100	-0.100	-0.100	-0.100	-0.100	-0.100	0.100	-0.100	-0.100	-0.100	-0.100	-0.100
POTASSIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SELENIUM	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010
SIL DIOXID	33.000	25.000	27.000	29.000	27.000	27.000	32.000	31.000	27.000	30.000	29.000	31.000
SODIUM	160.000	160.000	175.000	190.000	140.000	100.000	80.000	110.000	110.000	120.000	90.000	100.000
SULFATE	215.000	205.000	145.000	220.000	220.000	190.000	195.000	200.000	230.000	200.000	200.000	190.000
SULFIDE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ZINC	0.010	0.100	0.400	0.300	0.600	0.200	0.200	0.800	0.200	0.300	0.100	0.300
GROS ALPHA	0.0	13.000	2.800	4.700	4.900	1.400	7.400	2.500	8.100	7.100	8.400	13.000
GROSS BETA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.000	0.0	0.0
HARDNESS	325.000	330.000	290.000	280.000	340.000	420.000	445.000	430.000	425.000	390.000	460.000	410.000
PH	6.500	6.400	6.400	6.700	6.000	6.200	7.000	6.800	6.600	6.800	6.400	6.300
CONDUCTANC	860.000	1045.000	930.000	1000.000	980.000	1150.000	1150.000	1020.000	943.400	960.000	905.000	960.000
DIS SOLIDS	760.000	770.000	760.000	800.000	760.000	700.000	680.000	755.000	740.000	710.000	700.000	700.000
MANGANESE	0.120	1.900	1.300	2.500	1.500	1.000	0.300	5.000	0.080	8.000	0.050	5.400
ALKALINITY	405.000	420.000	420.000	372.000	329.000	332.000	355.000	370.000	375.000	375.000	350.000	360.000
CYANIDE	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	0.010	-0.010	-0.010	-0.010	-0.010	-0.010
BORON	1.500	2.400	3.000	-0.010	0.300	0.030	3.500	-0.010	2.000	0.500	2.100	-0.100
BARIUM	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000
SILVER	-0.010	-0.010	-0.010	-0.010	-0.010	0.010	0.010	-0.010	-0.010	-0.010	0.020	-0.010
NICKEL	0.050	0.080	0.060	0.060	0.060	0.070	0.010	0.090	0.010	0.080	0.040	0.200
LITHIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DOC	0.0	41.000	100.000	7.000	8.000	15.000	39.000	30.000	38.000	5.000	250.000	292.000
NITRITE-N	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BROMIDE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RBOSP PROGRESS REPORT

NNN-123-0000

SAMPLES	1	2	3	4	5	6	7	8	9	10	11	12
C.O.D.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHENOLS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KJELDAHL N	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BERYLLIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MOLYBDENUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STRONTIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VANADIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ORTHO PHOS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AMMONIA-N	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DIS-ORG C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MBAS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT COLIF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FEC COLIF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SPECTROGRAPHIC												
ALUMINUM	0.100	0.200	0.100	0.100	0.050	0.010	0.050	1.000	0.050	0.050	0.050	0.200
ANTIMONY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARSENIC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BARIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.001
BERYLIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BISMUTH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BORON	0.100	0.500	0.200	0.500	0.200	0.500	0.500	0.500	0.500	0.200	0.500	0.500
CADMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CALCIUM	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000
CERIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CESIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CHROMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COBOLT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COLUMBIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COPPER	0.001	0.010	0.001	0.010	0.005	0.010	0.010	0.010	0.001	0.005	0.005	0.020
DYSPROSIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ERBIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EUROPIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GADOLINIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GALLIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GERMANIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GOLD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HAFNIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HOLMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
INDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IRIDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IRON	0.050	0.050	0.020	0.100	0.050	0.010	0.020	0.050	0.050	0.050	0.020	0.200
LANTHANUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LEAD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.001	0.0	0.0	0.001
LITHIUM	0.100	0.0	0.0	0.001	0.001	0.0	0.010	0.010	0.010	0.001	0.010	0.001
LUTETIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAGNESIUM	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000
MANGANESE	0.010	0.010	0.001	0.010	0.001	0.001	0.005	0.050	0.005	0.005	0.005	0.050
MERCURY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MOLYBDENUM	0.010	0.001	0.001	0.001	0.0	0.001	0.0	0.0	0.001	0.0	0.0	0.001
NEODYMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NICKEL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PALLADIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PLATINUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RBOSP PROGRESS REPORT

SAMPLES	1	2	3	4	5	6	7	8	9	10	11	12
POTASSIUM	0.500	1.000	1.000	0.100	1.000	0.100	1.000	1.000	1.000	0.100	0.100	1.000
PRASEODYMI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RADIUM	0.0	0.100	0.0	0.0	0.100	0.0	0.0	0.0	0.500	0.0	0.800	0.400
RHENIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RHODIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RUBIDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RUTHENIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SAMARIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SCANDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SELENIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SILICON	10.000	5.000	5.000	2.000	5.000	5.000	2.000	10.000	5.000	5.000	5.000	5.000
SILVER	0.000	0.0	0.0	0.000	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.001
SODIUM	99999.000	5.000	5.000	5.000	10.000	2.000	10.000	99999.000	10.000	2.000	10.000	5.000
STRONTIUM	0.0	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100
TANTALUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TERBIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THALLIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THORIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THULIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TIN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.001
TITANIUM	0.010	0.001	0.001	0.010	0.001	0.010	0.0	0.001	0.001	0.005	0.001	0.001
TUNGSTEN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
URANIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VANADIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YTTERBIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YTTRIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ZINC	0.0	0.001	0.0	0.0	0.001	0.001	0.0	0.001	0.0	0.0	0.0	0.001
ZIRCONIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RBOSP PROGRESS REPORT

JOB#-741-40 OWNER-RIO BLANCO OIL SHALE PROJECT LOCATIONS: X- 152023.39 Y- 218255.72 Z- 6929.06
DATE DRILL COMPL-120475 DATE CONV TO MONITOR- 0 AQUIFER 1: 0.0 - 0.0 FT AQUIFER 2: 0.0 - 0.0 FT

SAMPLES	13	14	15	16	17	18
DATE	121275	12876	21876	52176	62376	82976
DEPTH	37.37	38.21	38.41	33.15	29.02	35.77
TEMP	46.4	46.4	45.7	47.5	50.0	49.7
LAB ID						
LAB NUM	5236	6300	6759	9525	642	2139
METHOD	3	3	3	3	3	3
AQUIF.LOC.	A	A	A	A	A	A
WET						
ALUMINUM	0.0	0.0	0.0	0.0	0.0	0.0
AMMONIA	0.600	1.700	6.400	0.200	0.0	0.600
ARSENIC	-0.010	-0.010	-0.010	-0.010	0.0	0.0
BICARBONAT	450.000	445.000	450.000	390.000	395.000	420.000
CADMIUM	0.050	0.050	0.060	0.060	0.0	0.0
CALCIUM	80.000	81.000	74.000	80.000	77.000	73.000
CARBONATE	-0.100	-0.100	-0.100	30.000	-0.100	-0.100
CHLORIDE	22.000	9.400	16.000	23.000	16.000	7.100
CHROMIUM	-0.010	-0.010	-0.010	-0.010	0.0	0.0
COPPER	1.000	0.300	0.500	-0.100	0.0	0.0
FLUORIDE	0.400	0.200	0.300	0.300	0.200	0.200
HYDROXIDE	0.0	0.0	0.0	0.0	0.0	0.0
IRON	8.600	2.900	17.000	0.300	-0.050	-0.050
LEAD	0.100	0.200	0.200	0.090	0.0	0.0
MAGNESIUM	55.000	61.000	38.000	26.000	40.000	70.000
MERCURY	-0.001	-0.001	-0.001	-0.001	0.0	0.0
NITRATE	4.200	2.200	4.000	4.000	3.300	2.600
PHOSPHATE	-0.100	0.100	0.100	-0.100	0.100	0.100
POTASSIUM	0.0	0.0	0.0	1.400	7.000	4.000
SELENIUM	-0.010	-0.010	-0.010	-0.010	0.0	0.0
SIL DIOXID	27.000	33.000	27.000	22.000	26.000	16.000
SODIUM	105.000	80.000	150.000	160.000	100.000	72.000
SULFATE	200.000	190.000	210.000	200.000	210.000	200.000
SULFIDE	0.0	0.0	0.0	-0.100	0.0	0.0
ZINC	0.800	0.800	0.700	0.100	0.0	0.0
GROS ALPHA	4.300	12.000	0.0	0.0	0.0	0.0
GROSS BETA	11.000	30.000	0.0	0.0	0.0	0.0
HARDNESS	420.000	450.000	340.000	310.000	380.000	0.0
PH	6.100	6.200	6.300	-6.000	6.500	6.800
CONDUCTANC	875.000	1058.000	1050.000	1050.000	960.000	980.000
DIS SOLIDS	720.000	700.000	780.000	875.000	820.000	670.000
MANGANESE	7.000	9.100	8.000	-0.050	-0.050	0.0
ALKALINITY	370.000	365.000	370.000	345.000	325.000	345.000
CYANIDE	-0.010	-0.010	-0.010	-0.010	0.0	0.0
BORON	0.100	-0.100	0.200	0.200	0.200	0.100
BARIUM	-1.000	-1.000	-1.000	0.0	0.0	0.0
SILVER	0.010	0.050	0.030	0.0	0.0	0.0
NICKEL	0.200	0.200	0.100	0.0	0.0	0.0
LITHIUM	0.0	0.0	0.0	-0.100	0.0	0.0
DOC	136.000	8.000	0.0	0.0	0.0	0.0
NITRITE-N	0.0	0.0	0.0	-0.100	-0.100	0.0
BROMIDE	0.0	0.0	0.0	0.0	0.0	0.0

REDOX PROGRESS REPORT

SAMPLES	13	14	15	16	17	18
C.O.D.	0.0	0.0	0.0	85.000	0.0	0.0
PHENOLS	0.0	0.0	0.0	-0.001	0.0	0.0
KJELDAHL N	0.0	0.0	0.0	2.000	8.800	2.700
BERYLLIUM	0.0	0.0	0.0	0.600	0.0	0.0
MOLYBDENUM	0.0	0.0	0.0	0.0	0.0	0.0
STRONTIUM	0.0	0.0	0.0	0.0	0.0	0.0
VANADIUM	0.0	0.0	0.0	0.0	0.0	0.0
ORTHO PHOS	0.0	0.0	0.0	-0.100	-0.100	-0.100
AMMONIA-N	0.0	0.0	0.0	0.0	1.900	0.0
DIS-ORG C	0.0	0.0	0.0	0.0	2.000	0.0
MBAS	0.0	0.0	0.0	0.0	0.0	0.0
TOT COLIF	0.0	0.0	0.0	0.0	0.0	0.0
FEC COLIF	0.0	0.0	0.0	0.0	0.0	0.0
SPECTROGRAPHIC						
ALUMINUM	1.000	2.000	1.000	2.000	0.0	0.0
ANTIMONY	0.0	0.0	0.0	0.0	0.0	0.0
ARSENIC	0.0	0.0	0.0	0.0	0.0	0.0
BARIUM	0.001	0.050	0.010	0.010	0.0	0.0
BERYLIUM	0.0	0.0	0.0	0.0	0.0	0.0
BISMUTH	0.0	0.0	0.0	0.0	0.0	0.0
BORON	0.500	0.010	0.500	0.500	0.0	0.0
CADMIUM	0.0	0.0	0.0	0.0	0.0	0.0
CALCIUM	99999.000	99999.000	99999.000	99999.000	0.0	0.0
CERIUM	0.0	0.0	0.0	0.0	0.0	0.0
CESIUM	0.0	0.0	0.0	0.0	0.0	0.0
CHROMIUM	0.0	0.001	0.001	0.0	0.0	0.0
COBOLT	0.0	0.0	0.0	0.0	0.0	0.0
COLUMBIUM	0.0	0.0	0.0	0.0	0.0	0.0
COPPER	0.020	0.020	0.020	0.020	0.0	0.0
DYSPROSIUM	0.0	0.0	0.0	0.0	0.0	0.0
ERBIUM	0.0	0.0	0.0	0.0	0.0	0.0
EUROPIUM	0.0	0.0	0.0	0.0	0.0	0.0
GADOLINIUM	0.0	0.0	0.0	0.0	0.0	0.0
GALLIUM	0.0	0.0	0.001	0.0	0.0	0.0
GERMANIUM	0.0	0.0	0.0	0.0	0.0	0.0
GOLD	0.0	0.0	0.0	0.0	0.0	0.0
HAFNIUM	0.0	0.0	0.0	0.0	0.0	0.0
HOLMIUM	0.0	0.0	0.0	0.0	0.0	0.0
INDIUM	0.0	0.0	0.0	0.0	0.0	0.0
IRIDIUM	0.0	0.0	0.0	0.0	0.0	0.0
IRON	0.100	1.000	1.000	2.000	0.0	0.0
LANTHANUM	0.0	0.0	0.0	0.0	0.0	0.0
LEAD	0.0	0.010	0.010	0.020	0.0	0.0
LITHIUM	0.001	0.0	0.010	0.0	0.0	0.0
LUTETIUM	0.0	0.0	0.0	0.0	0.0	0.0
MAGNESIUM	99999.000	99999.000	99999.000	99999.000	0.0	0.0
MANGANESE	0.100	0.500	0.200	0.200	0.0	0.0
MERCURY	0.0	0.0	0.0	0.0	0.0	0.0
MOLYBDENUM	0.001	0.0	0.010	0.020	0.0	0.0
NEODYMIUM	0.0	0.0	0.0	0.0	0.0	0.0
NICKEL	0.0	0.001	0.0	0.0	0.0	0.0
OSMIUM	0.0	0.0	0.0	0.0	0.0	0.0
PALLADIUM	0.0	0.0	0.0	0.0	0.0	0.0
PLATINUM	0.0	0.0	0.0	0.0	0.0	0.0

RBOSP FINGERLAKES REPORT

SAMPLES	13	14	15	16	17	18
POTASSIUM	1.000	0.010	0.500	2.000	0.0	0.0
PRASEODYMI	0.0	0.0	0.0	0.0	0.0	0.0
RADIUM	0.200	0.0	0.0	0.0	0.0	0.0
RHENIUM	0.0	0.0	0.0	0.0	0.0	0.0
RHODIUM	0.0	0.0	0.0	0.0	0.0	0.0
RUBIDIUM	0.0	0.0	0.0	0.0	0.0	0.0
RUTHENIUM	0.0	0.0	0.0	0.0	0.0	0.0
SAMARIUM	0.0	0.0	0.0	0.0	0.0	0.0
SCANDIUM	0.0	0.0	0.0	0.0	0.0	0.0
SELENIUM	0.0	0.0	0.0	0.0	0.0	0.0
SILICON	5.000	5.000	5.000	10.000	0.0	0.0
SILVER	0.0	0.001	0.001	0.0	0.0	0.0
SODIUM	5.000	1.000	5.000	10.000	0.0	0.0
STRONTIUM	0.100	0.100	0.100	0.100	0.0	0.0
TANTALUM	0.0	0.0	0.0	0.0	0.0	0.0
TERBIUM	0.0	0.0	0.0	0.0	0.0	0.0
THALLIUM	0.0	0.0	0.0	0.0	0.0	0.0
THORIUM	0.0	0.0	0.0	0.0	0.0	0.0
THULIUM	0.0	0.0	0.0	0.0	0.0	0.0
TIN	0.0	0.0	0.001	0.0	0.0	0.0
TITANIUM	0.010	0.010	0.100	0.100	0.0	0.0
TUNGSTEN	0.0	0.0	0.0	0.0	0.0	0.0
URANIUM	0.0	0.0	0.0	0.0	0.0	0.0
VANADIUM	0.0	0.001	0.0	0.0	0.0	0.0
YTTERBIUM	0.0	0.001	0.0	0.0	0.0	0.0
YTTRIUM	0.0	0.010	0.0	0.0	0.0	0.0
ZINC	0.0	0.005	0.010	0.0	0.0	0.0
ZIRCONIUM	0.0	0.0	0.0	0.0	0.0	0.0

RBOSP PROGRESS REPORT

JOB#-741-40F OWNER-RIO BLANCO OIL SHALE PROJECT LOCATIONS: X- 172979.34 Y- 231259.80 Z- 6463.95
DATE DRILL COMPL-120575 DATE CONV TO MONITOR- 0 AQUIFER 1: 0.0 - 0.0 FT AQUIFER 2: 0.0 - 0.0 FT

SAMPLES	1	2	3	4	5	6	7	8	9	10	11	12
DATE	32975	41575	42975	51475	52975	61175	63075	71575	80575	83075	101075	112075
DEPTH	0.0	48.38	47.41	46.05	44.41	42.60	40.47	44.20	45.05	42.83	43.82	44.29
TEMP	48.2	47.9	50.0	51.8	56.3	51.8	53.6	56.8	52.2	53.6	47.3	46.4
LAB ID												
LAB NUM	9025	235	236	440	441	900	2262	1544	2050	2766	3444	4658
METHOD	3	3	3	3	3	3	3	3	3	3	3	3
AQUIF.LOC.	A	A	A	A	A	A	A	A	A	A	A	A
WET												
ALUMINUM	-0.100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AMMONIA	-0.100	0.200	0.400	0.600	0.300	0.400	0.0	0.500	0.300	0.700	1.100	0.300
ARSENIC	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010
BICARBONAT	675.000	650.000	680.000	660.000	630.000	570.000	615.000	650.000	650.000	675.000	650.000	680.000
CADMIUM	-0.010	0.010	-0.010	0.020	0.030	0.070	0.020	0.090	-0.010	-0.010	-0.010	0.010
CALCIUM	77.000	190.000	140.000	170.000	210.000	150.000	160.000	125.000	135.000	58.000	140.000	130.000
CARBONATE	-0.100	-0.100	-0.100	18.000	6.000	24.000	-0.100	-0.100	-0.100	-0.100	-0.100	-0.100
CHLORIDE	19.000	19.000	23.000	27.000	21.000	27.000	12.000	30.000	14.000	11.000	21.000	26.000
CHROMIUM	-0.010	-0.050	-0.050	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010
COPPER	-0.010	-0.100	0.100	-0.100	-0.100	0.100	-0.100	-0.100	-0.100	0.500	-0.100	2.400
FLUORIDE	0.200	0.300	0.200	-0.100	0.200	0.200	0.100	0.200	0.600	0.200	0.500	0.200
HYDROXIDE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IRON	-0.050	6.300	6.300	4.300	5.000	6.000	15.000	8.800	7.700	8.500	6.400	7.200
LEAD	0.040	0.200	0.300	0.300	0.400	0.100	0.100	0.700	0.080	0.800	0.100	1.000
MAGNESIUM	115.000	67.000	90.000	35.000	3.700	84.000	81.000	95.000	105.000	145.000	110.000	93.000
MERCURY	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	0.002	-0.002	-0.002	-0.002	-0.002	0.002
NITRATE	1.600	0.300	4.000	12.000	13.000	19.000	17.000	20.000	21.000	16.500	17.000	15.000
PHOSPHATE	-0.100	0.100	-0.100	-0.100	-0.100	-0.100	-0.100	-0.100	-0.100	-0.100	-0.100	-0.100
POTASSIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SELENIUM	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010
SIL DIOXID	40.000	32.000	33.000	34.000	37.000	36.000	37.000	41.000	39.000	38.000	35.000	36.000
SODIUM	255.000	210.000	240.000	300.000	290.000	260.000	270.000	230.000	290.000	240.000	210.000	280.000
SULFATE	570.000	580.000	580.000	540.000	540.000	600.000	650.000	550.000	720.000	600.000	610.000	600.000
SULFIDE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ZINC	0.030	0.300	0.100	0.400	0.500	3.200	1.300	1.400	0.200	0.0	0.400	1.200
GROS ALPHA	0.0	15.000	15.000	11.000	17.000	7.600	8.100	14.000	20.000	21.000	13.000	30.000
GROSS BETA	0.0	0.0	0.0	0.0	0.0	0.0	8.000	12.000	0.0	35.000	0.0	0.0
HARDNESS	670.000	750.000	720.000	570.000	540.000	720.000	730.000	700.000	765.000	745.000	810.000	710.000
PH	6.400	6.400	6.400	6.800	6.100	6.200	7.000	7.200	7.200	6.000	6.000	6.300
CONDUCTANC	1880.000	1930.000	1875.000	1860.000	1940.000	2070.000	2220.000	1764.000	2252.000	1620.000	1590.000	1620.000
DIS SOLIDS	1410.000	1420.000	1420.000	1460.000	1430.000	1490.000	1540.000	1420.000	1640.000	1450.000	1470.000	1510.000
MANGANESE	0.330	1.000	1.200	1.700	3.500	2.800	4.000	4.500	5.800	15.000	0.100	9.900
ALKALINITY	555.000	530.000	560.000	555.000	525.000	490.000	505.000	535.000	530.000	550.000	530.000	560.000
CYANIDE	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	0.010	-0.010	-0.010	-0.010	-0.010	-0.010
BORON	0.400	3.700	4.200	27.000	0.200	0.070	0.400	0.500	1.900	1.000	0.600	0.100
BARIUM	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000
SILVER	-0.010	-0.010	-0.010	-0.010	-0.010	0.070	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010
NICKEL	0.020	0.040	0.030	0.050	0.080	0.100	0.040	0.100	0.060	0.020	0.100	0.200
LITHIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DOC	0.0	63.000	32.000	32.000	32.000	34.000	70.000	50.000	88.000	42.000	115.000	98.000
NITRITE-N	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BROMIDE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RBOSP PROGRESS REPORT

SAMPLES	1	2	3	4	5	6	7	8	9	10	11	12
C.O.D.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHENOLS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KJELDAHL N	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BERYLLIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MOLYBDENUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STRONTIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VANADIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ORTHO PHOS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AMMONIA-N	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DIS-ORG C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MBAS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT COLIF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FEC COLIF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SPECTROGRAPHIC												
ALUMINUM	0.200	0.100	0.010	0.010	0.100	0.010	0.100	0.500	0.100	0.050	0.100	0.500
ANTIMONY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARSENIC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BARIUM	0.0	0.0	0.0	0.001	0.0	0.001	0.0	0.001	0.001	0.0	0.0	0.010
BERYLLIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BISMUTH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BORON	0.100	0.100	0.500	0.500	0.200	0.200	0.200	0.200	0.200	0.500	0.200	0.500
CADMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CALCIUM	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000
CERIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CESIUM	0.001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CHROMIUM	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COBALT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COLUMBIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COPPER	0.0	0.001	0.010	0.001	0.010	0.005	0.001	0.010	0.010	0.010	0.010	0.010
DYSPROSIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ERBIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EUROPIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GADOLINIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GALLIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GERMANIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GOLD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HAFNIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HOLMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
INDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IRIDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IRON	0.100	0.100	0.100	0.050	0.100	0.020	0.050	0.050	0.050	0.050	0.050	0.020
LANTHANUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LEAD	0.001	0.0	0.0	0.0	0.0	0.0	0.0	0.001	0.0	0.0	0.001	0.001
LITHIUM	0.0	0.010	0.010	0.001	0.001	0.001	0.001	0.010	0.010	0.010	0.0	0.001
LUTETIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAGNESIUM	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000
MANGANESE	0.100	0.001	0.005	0.010	0.010	0.001	0.010	0.100	0.005	0.010	0.010	0.050
MERCURY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MOLYBDENUM	0.050	0.0	0.001	0.0	0.0	0.0	0.001	0.0	0.0	0.005	0.0	0.0
NEODYMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NICKEL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PALLADIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PLATINUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RBOSP PROGRESS REPORT

SAMPLES	1	2	3	4	5	6	7	8	9	10	11	12
POTASSIUM	0.100	0.100	0.500	0.010	0.500	1.000	1.000	0.500	1.000	1.000	0.100	1.000
PRASEODYMI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RADIUM	0.500	0.700	0.200	0.100	0.400	0.400	0.500	0.100	0.400	0.0	1.000	0.600
RHENIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RHODIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RUBIDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RUTHENIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SAMARIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SCANDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SELENIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SILICON	10.000	2.000	5.000	2.000	5.000	5.000	5.000	5.000	5.000	2.000	5.000	5.000
SILVER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	0.0
SODIUM	99999.000	5.000	10.000	10.000	10.000	5.000	10.000	99999.000	10.000	10.000	2.000	5.000
STRONTIUM	0.0	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100
TANTALUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TERBIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THALLIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THORIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THULIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TIN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TITANIUM	0.010	0.001	0.0	0.010	0.010	0.0	0.0	0.001	0.001	0.001	0.001	0.001
TUNGSTEN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
URANIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VANADIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YTTERBIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YTTRIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ZINC	0.0	0.0	0.001	0.0	0.0	0.0	0.0	0.010	0.0	0.001	0.0	0.001
ZIRCONIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

REOSP PROGRESS REPORT

JOB#-741-40F OWNER-RIO BLANCO OIL SHALE PROJECT LOCATIONS: X- 172979.34 Y- 231259.80 Z- 6463.95
DATE DRILL COMPL-120575 DATE CONV TO MONITOR- 0 AQUIFER 1: 0.0 - 0.0 FT AQUIFER 2: 0.0 - 0.0 FT

SAMPLES	13	14	15	16	17	18	19	20
DATE	121275	12876	21876	41376	52176	62376	73176	82976
DEPTH	44.56	44.54	44.71	45.32	44.23	43.83	44.78	43.86
TEMP	49.0	48.2	47.3	49.5	49.1	52.0	53.0	48.5
LAB ID								
LAB NUM	5237	6301	6760	8369	9526	643	1503	2142
METHOD	3	3	3	3	3	3	3	3
AQUIF.LOC.	A	A	A	A	A	A	A	A
WET								
ALUMINUM	0.0	0.0	0.0	1.200	0.0	0.0	0.0	0.0
AMMONIA	1.200	0.600	1.700	0.600	0.700	0.0	0.0	0.500
ARSENIC	-0.010	-0.010	-0.010	-0.010	-0.010	0.0	0.0	0.0
BICARBONAT	680.000	665.000	665.000	520.000	660.000	550.000	505.000	560.000
CADMIUM	1.100	0.040	0.050	0.050	0.040	0.0	0.0	0.0
CALCIUM	160.000	120.000	110.000	140.000	120.000	110.000	97.000	88.000
CARBONATE	-0.100	-0.100	-0.100	38.000	-0.100	-0.100	-0.100	18.000
CHLORIDE	27.000	20.000	13.000	27.000	24.000	20.000	20.000	9.900
CHROMIUM	-0.010	-0.010	-0.010	0.200	-0.010	0.0	0.0	0.0
COPPER	1.600	1.800	0.200	0.100	-0.100	0.0	0.0	0.0
FLUORIDE	0.300	0.200	0.200	0.300	0.300	0.200	0.300	0.100
HYDROXIDE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IRON	7.700	16.100	17.000	0.400	0.300	-0.050	-0.050	-0.050
LEAD	0.400	0.200	0.200	0.050	0.030	0.0	0.0	0.0
MAGNESIUM	88.000	105.000	67.000	96.000	62.000	88.000	100.000	105.000
MERCURY	-0.001	-0.001	-0.001	-0.001	-0.001	0.0	0.0	0.0
NITRATE	165.000	14.000	8.500	3.300	2.300	14.000	10.000	16.000
PHOSPHATE	-0.100	-0.100	0.100	-0.100	-0.100	0.200	-0.100	0.100
POTASSIUM	0.0	0.0	0.0	6.600	1.600	12.000	3.500	6.000
SELENIUM	-0.010	-0.010	-0.010	-0.010	-0.010	0.0	0.0	0.0
SIL DIOXID	34.000	34.000	33.000	33.000	34.000	34.000	34.000	21.000
SODIUM	260.000	220.000	180.000	240.000	350.000	220.000	230.000	230.000
SULFATE	580.000	580.000	340.000	680.000	700.000	550.000	640.000	600.000
SULFIDE	0.0	0.0	0.0	-0.100	-0.100	0.0	0.0	0.0
ZINC	1.200	1.000	0.900	0.700	-0.100	0.0	0.0	0.0
GROS ALPHA	31.000	26.000	0.0	0.0	0.0	0.0	0.0	0.0
GROSS BETA	0.0	4.000	0.0	0.0	0.0	0.0	0.0	0.0
HARDNESS	760.000	730.000	560.000	0.0	555.000	640.000	660.000	0.0
PH	6.200	6.400	6.500	6.400	6.400	6.400	6.200	6.800
CONDUCTANC	1630.000	1889.000	1600.000	1560.000	2050.000	1620.000	1950.000	1840.000
DIS SOLIDS	1650.000	1450.000	1150.000	1330.000	1570.000	1490.000	1110.000	1380.000
MANGANESE	6.600	4.300	11.000	4.800	-0.050	-0.050	-0.050	0.0
ALKALINITY	560.000	545.000	545.000	460.000	540.000	450.000	415.000	475.000
CYANIDE	0.010	-0.010	-0.010	-0.010	-0.010	0.0	0.0	0.0
BORON	0.200	0.100	0.300	4.800	0.200	0.100	0.0	0.600
BARIUM	-1.000	-1.000	-1.000	0.0	0.0	0.0	0.0	0.0
SILVER	0.010	0.040	0.020	0.0	0.0	0.0	0.0	0.0
NICKEL	0.100	0.200	0.100	0.0	0.0	0.0	0.0	0.0
LITHIUM	0.0	0.0	0.0	-0.100	-0.100	0.0	0.0	0.0
DOC	42.000	9.000	0.0	5.600	0.0	0.0	6.000	0.0
NITRITE-N	0.0	0.0	0.0	-0.020	-0.100	0.100	-0.010	0.0
BROMIDE	0.0	0.0	0.0	0.900	0.0	0.0	0.0	0.0

RDOSP PROGRESS REPORT

SAMPLES	13	14	15	16	17	18	19	20
C.O.D.	0.0	0.0	0.0	20.000	27.000	0.0	0.0	0.0
PHENOLS	0.0	0.0	0.0	-0.001	-0.001	0.0	0.0	0.0
KJELDAHL N	0.0	0.0	0.0	2.000	2.700	2.700	-0.100	2.700
BERYLLIUM	0.0	0.0	0.0	0.0	-0.020	0.0	0.0	0.0
MOLYBDENUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STRONTIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VANADIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ORTHO PHOS	0.0	0.0	0.0	0.0	-0.100	-0.100	-0.100	-0.100
AMMONIA-N	0.0	0.0	0.0	0.0	0.0	5.300	-0.100	0.0
DIS-ORG C	0.0	0.0	0.0	0.0	0.0	2.000	0.0	0.0
MBAS	0.0	0.0	0.0	0.0	0.0	0.0	-0.010	0.0
TOT COLIF	0.0	0.0	0.0	0.0	0.0	0.0	20.000	0.0
FEC COLIF	0.0	0.0	0.0	0.0	0.0	0.0	-10.000	0.0
SPECTROGRAPHIC								
ALUMINUM	0.100	5.000	0.100	0.0	0.500	0.0	0.010	0.0
ANTIMONY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARSENIC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BARIUM	0.001	0.010	0.010	0.0	0.0	0.0	0.0	0.0
BERYLIUM	0.0	0.001	0.0	0.0	0.0	0.0	0.0	0.0
BISMUTH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BORON	0.500	0.010	0.200	0.0	0.500	0.0	0.200	0.0
CADMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CALCIUM	99999.000	99999.000	99999.000	0.0	0.0	0.0	99999.000	0.0
CERIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CESIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CHROMIUM	0.0	0.010	0.0	0.0	0.0	0.0	0.0	0.0
COBALT	0.0	0.001	0.0	0.0	0.0	0.0	0.0	0.0
COLUMBIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COPPER	0.020	0.050	0.010	0.0	0.010	0.0	0.001	0.0
DYSPROSIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ERBIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EUROPIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GADOLINIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GALLIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GERMANIUM	0.0	0.001	0.0	0.0	0.0	0.0	0.0	0.0
GOLD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HAFNIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HOLMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
INDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IRIDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IRON	0.050	2.000	0.100	0.0	0.500	0.0	0.010	0.0
LANTHANUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LEAD	0.001	0.100	0.050	0.0	0.010	0.0	0.0	0.0
LITHIUM	0.001	0.001	0.001	0.0	0.0	0.0	0.0	0.0
LUTETIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAGNESIUM	99999.000	99999.000	99999.000	0.0	0.0	0.0	99999.000	0.0
MANGANESE	0.050	0.500	0.200	0.0	0.200	0.0	0.001	0.0
MERCURY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MOLYBDENUM	0.001	0.001	0.001	0.0	0.010	0.0	0.010	0.0
NEODYMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NICKEL	0.0	0.001	0.0	0.0	0.0	0.0	0.0	0.0
OSMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PALLADIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PLATINUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

MECOP PROGRESS REPORT

SAMPLES	13	14	15	16	17	18	19	20
POTASSIUM	1.000	0.010	0.100	0.0	0.100	0.0	0.010	0.0
PRASEODYMI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RADIUM	0.500	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RHENIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RHODIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RUBIDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RUTHENIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SAMARIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SCANDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SELENIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SILICON	2.000	5.000	2.000	0.0	5.000	0.0	2.000	0.0
SILVER	0.001	0.001	0.001	0.0	0.0	0.0	0.0	0.0
SODIUM	5.000	5.000	5.000	0.0	5.000	0.0	5.000	0.0
STRONTIUM	0.100	0.100	0.100	0.0	0.100	0.0	0.100	0.0
TANTALUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TERBIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THALLIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THORIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THULIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TIN	0.0	0.0	0.001	0.0	0.0	0.0	0.0	0.0
TITANIUM	0.010	0.010	0.010	0.0	0.010	0.0	0.0	0.0
TUNGSTEN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
URANIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VANADIUM	0.0	0.010	0.0	0.0	0.0	0.0	0.0	0.0
YTTERBIUM	0.0	0.001	0.0	0.0	0.0	0.0	0.0	0.0
YTTRIUM	0.0	0.010	0.0	0.0	0.0	0.0	0.0	0.0
ZINC	0.001	0.020	0.0	0.0	0.0	0.0	0.0	0.0
ZIRCONIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RDOSP PROGRESS REPORT

JOB#-741-40F OWNER-RIO BLANCO OIL SHALE PROJECT LOCATIONS: X- 176608.24 Y- 223657.10 Z- 6483.67
DATE DRILL COMPL-120575 DATE CONV TO MONITOR- 0 AQUIFER 1: 0.0 - 0.0 FT AQUIFER 2: 0.0 - 0.0 FT

SAMPLES	1	2	3	4	5	6	7	8	9	10	11	12
DATE	33175	41575	42975	51475	52975	61175	63075	71575	80575	83075	100975	112075
DEPTH	0.0	32.28	32.25	31.98	34.50	34.60	32.04	35.39	35.41	33.23	33.87	35.53
TEMP	45.5	46.9	48.2	51.1	48.6	55.8	55.4	56.3	50.6	51.8	64.7	43.7
LAB ID												
LAB NUM	9026	237	238	442	443	901	2263	1545	2051	2767	3445	4659
METHOD	3	3	3	3	3	3	3	3	3	3	3	3
AQUIF.LOC.	A	A	A	A	A	A	A	A	A	A	A	A
WET												
ALUMINUM	-0.100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AMMONIA	0.500	0.200	0.200	0.200	0.200	0.400	0.0	0.200	-0.100	0.200	-0.100	-0.100
ARSENIC	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010
BICARBONAT	700.000	710.000	620.000	550.000	620.000	570.000	680.000	695.000	750.000	755.000	670.000	780.000
CADMIUM	-0.010	-0.010	-0.010	0.010	0.010	0.010	-0.010	0.030	-0.010	-0.010	-0.010	0.060
CALCIUM	28.000	110.000	87.000	81.000	110.000	100.000	125.000	100.000	98.000	54.000	120.000	170.000
CARBONATE	-0.100	-0.100	-0.100	54.000	30.000	36.000	-0.100	-0.100	-0.100	-0.100	37.000	-0.100
CHLORIDE	22.000	16.000	71.000	21.000	21.000	34.000	20.000	25.000	18.000	23.000	21.000	23.000
CHROMIUM	-0.010	-0.050	-0.050	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010
COPPER	-0.010	-0.100	-0.100	-0.100	-0.010	0.100	0.100	-0.100	-0.100	3.200	-0.100	0.100
FLUORIDE	0.300	0.400	0.300	0.400	0.400	0.300	0.300	0.400	0.400	0.400	1.100	0.400
HYDROXIDE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IRON	-0.050	8.000	8.000	22.000	8.800	7.800	16.000	2.600	5.300	7.600	0.600	0.100
LEAD	0.040	0.100	0.050	0.700	0.400	0.300	0.600	0.700	0.020	0.800	0.060	0.090
MAGNESIUM	120.000	96.000	98.000	95.000	84.000	95.000	92.000	110.000	120.000	140.000	120.000	65.000
MERCURY	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.002	-0.002	-0.002	-0.002	-0.002	-0.001
NITRATE	2.500	2.900	2.300	4.200	2.500	3.000	3.300	2.700	3.600	2.100	2.500	1.400
PHOSPHATE	-0.100	-0.100	-0.100	-0.100	-0.100	-0.100	-0.100	0.200	-0.100	-0.100	-0.100	-0.100
POTASSIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SELENIUM	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010
SIL DIOXID	37.000	35.000	32.000	33.000	34.000	33.000	40.000	38.000	34.000	35.000	32.000	34.000
SODIUM	265.000	230.000	230.000	210.000	210.000	230.000	220.000	165.000	240.000	220.000	170.000	240.000
SULFATE	450.000	480.000	450.000	420.000	410.000	500.000	500.000	390.000	580.000	470.000	450.000	440.000
SULFIDE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ZINC	0.040	0.200	0.030	0.300	0.0	0.500	0.700	1.600	0.100	0.900	-0.100	0.500
GROS ALPHA	0.0	14.000	11.000	7.800	9.000	7.600	11.000	13.000	7.200	8.400	13.000	22.000
GROSS BETA	0.0	0.0	0.0	0.0	0.0	0.0	3.000	1.000	0.0	4.200	0.0	0.0
HARDNESS	550.000	670.000	620.000	590.000	620.000	640.000	685.000	690.000	730.000	700.000	800.000	680.000
PH	6.400	6.600	6.800	6.800	6.200	6.400	6.800	6.900	6.800	6.200	6.200	6.400
CONDUCTANC	1511.000	1700.000	1550.000	1650.000	1650.000	1710.000	2090.000	1778.000	1525.000	1580.000	1490.000	1680.000
DIS SOLIDS	1270.000	1280.000	1210.000	1190.000	1200.000	1320.000	1350.000	1170.000	1460.000	1320.000	1290.000	1350.000
MANGANESE	0.090	6.400	0.100	2.900	0.500	2.100	3.500	7.500	2.600	17.000	0.300	8.800
ALKALINITY	570.000	580.000	510.000	494.000	535.000	499.000	555.000	570.000	615.000	620.000	580.000	640.000
CYANIDE	-0.010	0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	0.010
BORON	0.400	1.200	4.700	0.060	10.000	0.030	4.000	0.090	2.100	0.800	0.800	0.200
BARIUM	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000
SILVER	-0.010	-0.010	-0.010	-0.010	-0.010	0.010	0.010	-0.010	-0.010	-0.010	0.010	-0.010
NICKEL	0.040	0.070	0.010	0.100	0.040	0.100	0.080	0.100	0.010	0.200	0.060	0.200
LITHIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DOC	0.0	64.000	54.000	19.000	60.000	10.000	135.000	100.000	66.000	35.000	270.000	259.000
NITRITE-N	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BROMIDE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RBOSP PROGRESS REPORT

SAMPLES	1	2	3	4	5	6	7	8	9	10	11	12
C.O.D.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHENOLS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KJELDAHL N	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BERYLLIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MOLYBDENUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STRONTIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VANADIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ORTHO PHOS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AMMONIA-N	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DIS-ORG C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MBAS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT COLIF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FEC COLIF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SPECTROGRAPHIC												
ALUMINUM	0.100	0.010	0.010	0.010	0.010	0.050	0.050	1.000	0.100	0.100	0.050	0.100
ANTIMONY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARSENIC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BARIUM	0.0	0.0	0.0	0.0	0.001	0.0	0.0	0.001	0.0	0.0	0.0	0.001
BERYLIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BISMUTH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BORON	0.100	0.200	0.500	0.500	0.200	0.500	0.200	0.500	0.100	0.200	0.500	0.500
CADMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CALCIUM	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	10.000	99999.000	10.000	99999.000	99999.000	99999.000
CERIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CESIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CHROMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COBALT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COLUMBIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COPPER	0.010	0.005	0.010	0.001	0.010	0.001	0.005	0.020	0.010	0.005	0.005	0.010
DYSPROSIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ERBIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EUROPIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GADOLINIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GALLIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GERMANIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GOLD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HAFNIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HOLMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
INDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IRIDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IRON	0.050	0.050	0.010	0.050	0.020	0.010	0.020	0.020	0.020	0.020	0.020	0.100
LANTHANUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LEAD	0.001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LITHIUM	0.100	0.001	0.001	0.001	0.0	0.001	0.010	0.010	0.010	0.010	0.001	0.001
LUTETIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAGNESIUM	99999.000	9999.000	99999.000	99999.000	99999.000	99999.000	10.000	99999.000	10.000	99999.000	99999.000	99999.000
MANGANESE	0.010	0.001	0.001	0.010	0.001	0.0	0.010	0.100	0.005	0.005	0.010	0.100
MERCURY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MOLYBDENUM	0.010	0.0	0.0	0.001	0.0	0.0	0.0	0.005	0.0	0.0	0.001	0.001
NEODYMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NICKEL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PALLADIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PLATINUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RBOSP PROGRESS REPORT

SAMPLES	1	2	3	4	5	6	7	8	9	10	11	12
POTASSIUM	0.100	0.100	0.100	0.100	0.100	1.000	1.000	1.000	1.000	1.000	0.100	0.500
PRASEODYMI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RADIUM	0.100	0.300	0.400	0.200	0.100	0.400	0.400	0.200	0.200	0.0	1.200	0.400
RHENIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RHODIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RUBIDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RUTHENIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SAMARIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SCANDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SELENIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SILICON	10.000	5.000	2.000	5.000	5.000	2.000	5.000	10.000	2.000	5.000	2.000	5.000
SILVER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.001
SODIUM	99999.000	5.000	5.000	5.000	2.000	5.000	99999.000	99999.000	99999.000	10.000	5.000	5.000
STRONTIUM	0.0	0.100	0.100	0.100	0.100	0.100	0.010	0.100	0.010	0.100	0.100	0.100
TANTALUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TERBIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THALLIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THORIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THULIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TIN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TITANIUM	0.001	0.001	0.0	0.010	0.001	0.001	0.001	0.010	0.0	0.001	0.001	0.001
TUNGSTEN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
URANIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VANADIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YTTERBIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YTTRIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ZINC	0.0	0.0	0.0	0.0	0.001	0.0	0.0	0.001	0.0	0.0	0.0	0.0
ZIRCONIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RBCCP PROGRESS REPORT

JOB#-741-40F OWNER-RIO BLANCO OIL SHALE PROJECT LOCATIONS: X- 176608.24 Y- 223657.10 Z- 6483.67
DATE DRILL COMPL-120575 DATE CONV TO MONITOR- 0 AQUIFER 1: 0.0 - 0.0 FT AQUIFER 2: 0.0 - 0.0 FT

SAMPLES	13	14	15	16	17	18	19	20
DATE	121275	12876	21876	41376	52176	62376	73176	82976
DEPTH	34.00	33.62	33.53	32.40	31.83	33.71	31.59	28.11
TEMP	46.0	42.8	44.0	46.4	46.4	50.0	53.0	47.8
LAB ID								
LAB NUM	5238	6302	6761	8370	9527	644	1501	2143
METHOD	3	3	3	3	3	3	3	3
AQUIF.LOC.	A	A	A	A	A	A	A	A
WET								
ALUMINUM	0.0	0.0	0.0	-0.100	0.0	0.0	0.0	0.0
AMMONIA	-0.100	0.800	1.400	0.600	0.100	0.0	0.0	0.200
ARSENIC	-0.010	-0.010	-0.010	-0.010	-0.010	0.0	0.0	0.0
BICARBONAT	710.000	780.000	745.000	610.000	560.000	580.000	600.000	630.000
CADMIUM	0.050	0.040	0.040	0.050	0.080	0.0	0.0	0.0
CALCIUM	130.000	110.000	115.000	130.000	52.000	90.000	98.000	89.000
CARBONATE	-0.100	-0.100	-0.100	21.000	18.000	-0.100	-0.100	18.000
CHLORIDE	31.000	22.000	18.000	20.000	14.000	21.000	17.000	18.000
CHROMIUM	-0.010	-0.010	-0.010	0.200	-0.010	0.0	0.0	0.0
COPPER	6.200	2.700	3.700	0.200	0.100	0.0	0.0	0.0
FLUORIDE	0.500	0.200	0.400	0.500	0.400	0.300	0.400	0.100
HYDROXIDE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IRON	7.700	11.600	16.000	0.400	0.200	-0.050	-0.050	-0.050
LEAD	0.800	0.400	0.400	0.100	0.040	0.0	0.0	0.0
MAGNESIUM	89.000	130.000	97.000	98.000	110.000	70.000	90.000	94.000
MERCURY	-0.001	-0.001	-0.001	-0.001	-0.001	0.0	0.0	0.0
NITRATE	1.900	2.200	3.000	0.500	4.700	3.200	4.700	3.200
PHOSPHATE	-0.100	-0.100	0.100	-0.100	-0.100	0.200	0.200	0.200
POTASSIUM	0.0	0.0	0.0	5.700	1.000	8.500	3.000	5.000
SELENIUM	-0.010	-0.010	-0.010	-0.010	-0.010	0.0	0.0	0.0
SIL DIOXID	31.000	32.000	39.000	33.000	36.000	29.000	30.000	18.000
SODIUM	200.000	160.000	200.000	160.000	450.000	180.000	180.000	150.000
SULFATE	440.000	440.000	420.000	440.000	1000.000	390.000	455.000	400.000
SULFIDE	0.0	0.0	0.0	-0.100	-0.100	0.0	0.0	0.0
ZINC	2.100	0.800	1.100	0.300	0.100	0.0	0.0	0.0
GROS ALPHA	28.000	17.000	0.0	0.0	0.0	0.0	0.0	0.0
GROSS BETA	0.0	11.000	0.0	0.0	0.0	0.0	0.0	0.0
HARDNESS	700.000	820.000	640.000	0.0	570.000	510.000	615.000	0.0
PH	6.200	6.600	6.400	6.600	6.200	6.200	6.700	0.0
CONDUCTANC	1480.000	1820.000	1780.000	1770.000	1550.000	1210.000	1620.000	1630.000
DIS SOLIDS	1280.000	1330.000	1370.000	1320.000	2090.000	1150.000	1090.000	1190.000
MANGANESE	27.000	4.200	18.000	4.800	0.070	-0.050	-0.050	0.0
ALKALINITY	580.000	640.000	610.000	520.000	475.000	475.000	490.000	530.000
CYANIDE	-0.010	-0.010	-0.010	-0.010	-0.010	0.0	0.0	0.0
BORON	0.200	0.200	0.200	0.040	0.200	0.200	0.0	0.300
BARIUM	-1.000	-1.000	-1.000	0.0	0.0	0.0	0.0	0.0
SILVER	0.020	0.040	0.010	0.0	0.0	0.0	0.0	0.0
NICKEL	0.200	0.100	0.100	0.0	0.0	0.0	0.0	0.0
LITHIUM	0.0	0.0	0.0	-0.100	-0.100	0.0	0.0	0.0
DOC	34.000	6.000	0.0	2.900	0.0	0.0	5.000	0.0
NITRITE-N	0.0	0.0	0.0	-0.020	-0.100	-0.100	-0.010	0.0
BROMIDE	0.0	0.0	0.0	0.800	0.0	0.0	0.0	0.0

RBOSP PROGRESS REPORT

SAMPLES	13	14	15	16	17	18	19	20
C.O.D.	0.0	0.0	0.0	5.000	15.000	0.0	0.0	0.0
PHENOLS	0.0	0.0	0.0	-0.001	-0.001	0.0	0.0	0.0
KJELDAHL N	0.0	0.0	0.0	1.400	1.400	2.000	-0.100	2.000
BERYLLIUM	0.0	0.0	0.0	0.0	-0.020	0.0	0.0	0.0
MOLYBDENUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STRONTIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VANADIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ORTHO PHOS	0.0	0.0	0.0	0.0	-0.100	0.100	0.200	-0.100
AMMONIA-N	0.0	0.0	0.0	0.0	0.0	1.100	-0.100	0.0
DIS-ORG C	0.0	0.0	0.0	0.0	0.0	2.000	0.0	0.0
MBAS	0.0	0.0	0.0	0.0	0.0	0.0	-0.010	0.0
TOT COLIF	0.0	0.0	0.0	0.0	0.0	0.0	150.000	0.0
FEC COLIF	0.0	0.0	0.0	0.0	0.0	0.0	20.000	0.0
SPECTROGRAPHIC								
ALUMINUM	1.000	5.000	5.000	0.0	0.500	0.0	0.010	0.0
ANTIMONY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARSENIC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BARIUM	0.010	0.010	0.050	0.0	0.0	0.0	0.0	0.0
BERYLIUM	0.0	0.001	0.001	0.0	0.0	0.0	0.0	0.0
BISMUTH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BORON	0.500	0.010	0.100	0.0	0.500	0.0	0.200	0.0
CADMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CALCIUM	99999.000	99999.000	99999.000	0.0	0.0	0.0	99999.000	0.0
CERIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CESIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CHROMIUM	0.0	0.010	0.010	0.0	0.0	0.0	0.0	0.0
COBALT	0.0	0.001	0.001	0.0	0.0	0.0	0.0	0.0
COLUMBIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COPPER	0.020	0.050	0.050	0.0	0.020	0.0	0.001	0.0
DYSPROSIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ERBIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EUROPIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GADOLINIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GALLIUM	0.0	0.001	0.010	0.0	0.0	0.0	0.0	0.0
GERMANIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GOLD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HAFNIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HOLMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
INDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IRIDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IRON	0.100	1.000	5.000	0.0	0.500	0.0	0.010	0.0
LANTHANUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LEAD	0.001	0.100	0.010	0.0	0.010	0.0	0.0	0.0
LITHIUM	0.001	0.001	0.0	0.0	0.0	0.0	0.001	0.0
LUTETIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAGNESIUM	99999.000	99999.000	99999.000	0.0	0.0	0.0	99999.000	0.0
MANGANESE	0.100	0.500	0.200	0.0	0.010	0.0	0.0	0.0
MERCURY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MOLYBDENUM	0.010	0.001	0.0	0.0	0.010	0.0	0.010	0.0
NEODYMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NICKEL	0.0	0.001	0.001	0.0	0.0	0.0	0.0	0.0
OSMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PALLADIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PLATINUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RBOSP PROGRESS REPORT

SAMPLES	13	14	15	16	17	18	19	20
POTASSIUM	1.000	0.010	1.000	0.0	0.100	0.0	0.010	0.0
PRASEODYMI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RADIUM	0.200	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RHENIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RHODIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RUBIDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RUTHENIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SAMARIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SCANDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SELENIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SILICON	5.000	5.000	99999.000	0.0	5.000	0.0	5.000	0.0
SILVER	0.001	0.020	0.0	0.0	0.0	0.0	0.100	0.0
SODIUM	5.000	5.000	2.000	0.0	5.000	0.0	5.000	0.0
STRONTIUM	0.100	0.100	0.100	0.0	0.100	0.0	0.100	0.0
TANTALUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TERBIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THALLIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THORIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THULIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TIN	0.001	0.0	0.001	0.0	0.0	0.0	0.0	0.0
TITANIUM	0.010	0.050	0.500	0.0	0.010	0.0	0.0	0.0
TUNGSTEN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
URANIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VANADIUM	0.0	0.010	0.020	0.0	0.0	0.0	0.0	0.0
YTTERBIUM	0.0	0.001	0.0	0.0	0.0	0.0	0.0	0.0
YTTRIUM	0.0	0.020	0.0	0.0	0.0	0.0	0.0	0.0
ZINC	0.0	0.010	0.020	0.0	0.0	0.0	0.0	0.0
ZIRCONIUM	0.0	0.0	0.010	0.0	0.0	0.0	0.0	0.0

RBOSP FINDINGS REPORT

JOB#-741-40 OWNER-RIO BLANCO OIL SHALE PROJECT LOCATIONS: X- 0.0 Y- 0.0 Z- 0.0
DATE DRILL COMPL- 62175 DATE CONV TO MONITOR- 62175 AQUIFER 1: 0.0 - 0.0 FT AQUIFER 2: 0.0 - 0.0 FT

SAMPLES	1	2	3	4	5	6	7	8	9	10	11	12
DATE	63075	71575	80575	83075	100975	112075	121275	12876	21876	52076	62276	73176
DEPTH	52.00	55.69	56.39	54.50	53.60	53.11	51.46	50.81	53.27	51.77	53.24	55.20
TEMP	53.8	55.4	53.6	52.2	50.2	48.2	49.6	47.8	47.0	50.3	54.0	53.0
LAB ID												
LAB NUM	2264	1546	2052	2768	3446	4660	5239	6303	6766	9528	645	1504
METHOD	3	3	3	3	3	3	3	3	3	3	3	3
AQUIF.LOC.	A	A	A	A	A	A	A	A	A	A	A	A
WET												
ALUMINUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AMMONIA	0.0	0.300	0.300	0.200	0.0	0.200	-0.100	1.100	0.0	-0.100	0.0	0.0
ARSENIC	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	0.010	0.0	0.0
BICARBONAT	600.000	530.000	610.000	520.000	490.000	570.000	580.000	575.000	490.000	585.000	520.000	465.000
CADMIUM	0.030	-0.010	-0.010	-0.010	-0.010	0.040	0.050	0.020	-0.010	0.060	0.0	0.0
CALCIUM	88.000	93.000	140.000	140.000	110.000	240.000	120.000	88.000	100.000	120.000	86.000	100.000
CARBONATE	-0.100	-0.100	-0.100	18.000	28.000	-0.100	-0.100	-0.100	-0.100	-0.100	-0.100	-0.100
CHLORIDE	16.000	23.000	8.200	14.000	21.000	18.000	21.000	16.000	9.400	24.000	17.000	16.000
CHROMIUM	-0.010	-0.010	-0.010	-0.010	0.0	-0.010	-0.010	-0.010	-0.010	-0.010	0.0	0.0
COPPER	0.100	-0.100	-0.100	2.600	0.300	8.000	4.100	0.200	-0.100	-0.100	0.0	0.0
FLUORIDE	0.100	0.300	0.600	0.300	0.600	0.300	0.400	0.200	0.200	0.100	0.200	0.300
HYDROXIDE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IRON	16.000	15.000	8.700	6.200	16.000	2.800	6.700	7.200	17.000	0.100	-0.050	0.830
LEAD	0.700	0.100	0.060	0.900	0.0	13.000	0.800	0.200	0.020	0.040	0.0	0.0
MAGNESIUM	115.000	120.000	77.000	82.000	110.000	12.000	90.000	110.000	83.000	97.000	95.000	83.000
MERCURY	-0.002	-0.002	-0.002	-0.002	-0.002	-0.001	-0.001	-0.001	-0.001	-0.001	0.0	0.0
NITRATE	6.800	5.000	7.000	1.000	7.800	4.600	5.000	5.200	6.400	4.700	4.200	5.800
PHOSPHATE	-0.100	-0.100	-0.100	-0.100	-0.100	-0.100	-0.100	-0.100	0.200	-0.100	0.100	0.100
POTASSIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.100	10.000	3.000
SELENIUM	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	0.0	0.0
SIL DIOXID	40.000	43.000	38.000	36.000	29.000	32.000	29.000	31.000	29.000	42.000	30.000	24.000
SODIUM	235.000	165.000	310.000	220.000	170.000	220.000	240.000	180.000	190.000	205.000	180.000	205.000
SULFATE	615.000	550.000	780.000	600.000	540.000	540.000	570.000	520.000	550.000	500.000	550.000	620.000
SULFIDE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.100	0.0	0.0
ZINC	1.100	5.700	0.300	0.900	1.000	2.000	1.300	0.600	-0.100	-0.100	0.0	0.0
GROS ALPHA	11.000	5.000	9.800	11.000	12.000	21.000	19.000	24.000	0.0	0.0	0.0	0.0
GROSS BETA	5.000	8.000	0.0	30.000	0.0	0.0	0.0	24.000	0.0	0.0	0.0	0.0
HARDNESS	700.000	730.000	665.000	685.000	710.000	640.000	680.000	680.000	590.000	705.000	605.000	590.000
PH	6.800	6.900	6.800	6.200	6.400	6.000	6.100	6.400	6.400	6.600	6.700	6.400
CONDUCTANC	2000.000	1760.000	1615.000	1420.000	1670.000	1540.000	1620.000	1700.000	1590.000	1725.000	1800.000	1640.000
DIS SOLIDS	1420.000	1280.000	1670.000	1640.000	1270.000	1350.000	1370.000	1320.000	1270.000	1420.000	1310.000	1190.000
MANGANESE	12.000	14.000	0.090	2.400	0.200	7.500	5.000	0.600	0.100	-0.050	-0.050	7.800
ALKALINITY	490.000	435.000	500.000	440.000	420.000	470.000	470.000	470.000	400.000	480.000	425.000	360.000
CYANIDE	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	0.010	-0.010	-0.010	0.0	0.0
BORON	-0.010	0.100	0.500	2.000	0.800	-0.100	0.300	0.100	0.500	0.200	0.200	0.0
BARIUM	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	0.0	0.0	0.0
SILVER	0.030	-0.010	-0.010	-0.010	0.0	-0.010	0.010	0.010	-0.010	0.0	0.0	0.0
NICKEL	0.200	0.060	0.030	0.090	0.070	0.200	0.200	0.080	0.030	0.0	0.0	0.0
LITHIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.100	0.0	0.0
DOC	174.000	170.000	107.000	61.000	130.000	108.000	122.000	8.000	0.0	0.0	0.0	6.000
NITRITE-N	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.100	-0.100	-0.010
BROMIDE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RDOSP PROGRESS REPORT

SAMPLES	1	2	3	4	5	6	7	8	9	10	11	12
C.O.D.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	31.000	0.0	0.0
PHENOLS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.001	0.0	0.0
KJELDAHL N	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.100	1.400	-0.100
BERYLLIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.500	0.0	0.0
MOLYBDENUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STRONTIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VANADIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ORTHO PHOS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.100	-0.100	0.100
AMMONIA-N	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.400	-0.100
DIS-ORG C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.000	0.0
VEAS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT COLIF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-10.000
FEC COLIF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-10.000
SPECTROGRAPHIC												
ALUMINUM	0.010	1.000	0.050	0.100	0.050	1.000	0.500	0.100	5.000	0.500	0.0	2.000
ANTIMONY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARSENIC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BARIUM	0.0	0.010	0.0	0.001	0.0	0.0	0.001	0.0	0.050	0.0	0.0	0.0
BERYLIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.001	0.0	0.0	0.0
BISMUTH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BORON	0.500	0.500	0.200	0.500	0.500	0.500	0.500	0.010	0.100	0.500	0.0	0.500
CADMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CALCIUM	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	10.000	99999.000	99999.000	0.0	99999.000
CERIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CESIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CHROMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.020	0.0	0.0	0.010
COBOLT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.001	0.0	0.0	0.0
COLUMBIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COPPER	0.005	0.020	0.010	0.001	0.005	0.020	0.010	0.050	0.050	0.010	0.0	0.020
DYSPROSIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ERBIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EUROPIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GADOLINIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GALLIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.010	0.0	0.0	0.001
GERMANIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GOLD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HAFNIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HOLMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
INDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IRIDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IRON	0.020	0.500	0.050	0.010	0.020	0.050	0.500	0.500	5.000	0.100	0.0	1.000
LANTHANUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LEAD	0.0	0.010	0.0	0.001	0.001	0.0	0.0	0.200	0.020	0.001	0.0	0.010
LITHIUM	0.010	0.010	0.001	0.001	0.010	0.001	0.001	0.010	0.0	0.0	0.0	0.001
LUTETIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAGNESIUM	9999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	10.000	99999.000	99999.000	0.0	99999.000
MANGANESE	0.005	0.100	0.001	0.010	0.005	0.050	0.100	0.050	0.500	0.010	0.0	0.010
MERCURY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MOLYBDENUM	0.001	0.010	0.0	0.001	0.001	0.001	0.001	0.001	0.0	0.010	0.0	0.050
NEODYMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NICKEL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.001	0.0	0.0	0.0
OSMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PALLADIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PLATINUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RBOSP PROGRESS REPORT

SAMPLES	1	2	3	4	5	6	7	8	9	10	11	12
POTASSIUM	1.000	1.000	0.100	0.100	0.100	2.000	1.000	0.100	1.000	0.100	0.0	1.000
PRASEODYMI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RADIUM	0.500	0.100	0.300	0.0	0.600	0.0	0.200	0.0	0.0	0.0	0.0	0.0
RHENIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RHODIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RUBIDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RUTHENIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SAMARIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SCANDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SELENIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SILICON	5.000	10.000	5.000	5.000	5.000	2.000	5.000	2.000	99999.000	5.000	0.0	5.000
SILVER	0.0	0.0	0.0	0.001	0.0	0.0	0.0	0.001	0.0	0.100	0.0	0.010
SODIUM	10.000	99999.000	5.000	5.000	10.000	10.000	5.000	99999.000	2.000	0.0	0.0	10.000
STRONTIUM	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.0	1.000
TANTALUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TERBIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THALLIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THORIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THULIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TIN	0.0	0.001	0.0	0.0	0.0	0.0	0.0	0.0	0.001	0.001	0.0	0.001
TITANIUM	0.0	0.010	0.010	0.001	0.001	0.001	0.005	0.001	1.000	0.010	0.0	0.010
TUNGSTEN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
URANIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VANADIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.020	0.0	0.0	0.001
YTTERBIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YTTRIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ZINC	0.0	0.001	0.001	0.001	0.001	0.001	0.001	0.010	0.020	0.0	0.0	0.001
ZIRCONIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.010	0.0	0.0	0.0

RBOSP PROGRESS REPORT

JOB#-741-40 OWNER-RIO BLANCO OIL SHALE PROJECT LOCATIONS: X- 0.0 Y- 0.0 Z- 0.0
DATE DRILL COMPL- 62175 DATE CONV TO MONITOR- 62175 AQUIFER 1: 0.0 - 0.0 FT AQUIFER 2: 0.0 - 0.0 FT

SAMPLES	13
DATE	82976
DEPTH	58.18
TEMP	51.4
LAB ID	
LAB NUM	2144
METHOD	3
AQUIF.LOC.	A
WET	
ALUMINUM	0.0
AMMONIA	2.000
ARSENIC	0.0
BICARBONAT	380.000
CADMIUM	0.0
CALCIUM	110.000
CARBONATE	36.000
CHLORIDE	11.000
CHROMIUM	0.0
COPPER	0.0
FLUORIDE	0.100
HYDROXIDE	0.0
IRON	-0.050
LEAD	0.0
MAGNESIUM	65.000
MERCURY	0.0
NITRATE	59.000
PHOSPHATE	0.600
POTASSIUM	6.500
SELENIUM	0.0
SIL DIOXID	16.000
SODIUM	180.000
SULFATE	520.000
SULFIDE	0.0
ZINC	0.0
GROS ALPHA	0.0
GROSS BETA	0.0
HARDNESS	0.0
PH	6.600
CONDUCTANC	1530.000
DIS SOLIDS	1220.000
MANGANESE	0.0
ALKALINITY	340.000
CYANIDE	0.0
BORON	0.100
BARIUM	0.0
SILVER	0.0
NICKEL	0.0
LITHIUM	0.0
DOC	0.0
NITRITE-N	0.0
BROMIDE	0.0

RBOSP PROGRESS REPORT

SAMPLES	13
C.O.D.	0.0
PHENOLS	0.0
KJELDAHL N	5.400
BERYLLIUM	0.0
MOLYBDENUM	0.0
STRONTIUM	0.0
VANADIUM	0.0
ORTHO PHOS	0.100
AMMONIA-N	0.0
DIS-ORG C	0.0
MBAS	0.0
TOT COLIF	0.0
FEC COLIF	0.0

SPECTROGRAPHIC

ALUMINUM	0.0
ANTIMONY	0.0
ARSENIC	0.0
BARIUM	0.0
BERYLIUM	0.0
BISMUTH	0.0
BORON	0.0
CADMIUM	0.0
CALCIUM	0.0
CERIUM	0.0
CESIUM	0.0
CHROMIUM	0.0
COBOLT	0.0
COLUMBIUM	0.0
COPPER	0.0
DYSPROSIUM	0.0
ERBIUM	0.0
EUROPIUM	0.0
GADOLINIUM	0.0
GALLIUM	0.0
GERMANIUM	0.0
GOLD	0.0
HAFNIUM	0.0
HOLMIUM	0.0
INDIUM	0.0
IRIDIUM	0.0
IRON	0.0
LANTHANUM	0.0
LEAD	0.0
LITHIUM	0.0
LUTETIUM	0.0
MAGNESIUM	0.0
MANGANESE	0.0
MERCURY	0.0
MOLYBDENUM	0.0
NEODYMIUM	0.0
NICKEL	0.0
OSMIUM	0.0
PALLADIUM	0.0
PLATINUM	0.0

RBOSP PROGRESS REPORT

SAMPLES 13

POTASSIUM	0.0
PRASEODYMI	0.0
RADIUM	0.0
RHENIUM	0.0
RHODIUM	0.0
RUBIDIUM	0.0
RUTHENIUM	0.0
SAMARIUM	0.0
SCANDIUM	0.0
SELENIUM	0.0
SILICON	0.0
SILVER	0.0
SODIUM	0.0
STRONTIUM	0.0
TANTALUM	0.0
TERBIUM	0.0
THALLIUM	0.0
THORIUM	0.0
THULIUM	0.0
TIN	0.0
TITANIUM	0.0
TUNGSTEN	0.0
URANIUM	0.0
VANADIUM	0.0
YTTERBIUM	0.0
YTTRIUM	0.0
ZINC	0.0
ZIRCONIUM	0.0

REOSP PROGRESS REPORT

JOB#-741-40 OWNER-RIO BLANCO OIL SHALE PROJECT LOCATIONS: X- 0.0 Y- 0.0 Z- 0.0
DATE DRILL COMPL- 61975 DATE CONV TO MONITOR- 62075 AQUIFER 1: 0.0 - 0.0 FT AQUIFER 2: 0.0 - 0.0 FT

SAMPLES	1	2	3	4	5	6	7	8	9	10	11	12
DATE	63075	71575	80575	83075	100975	112075	121275	12876	21876	41376	52076	62276
DEPTH	65.49	67.36	68.00	66.24	66.60	67.48	66.17	65.93	65.58	65.36	64.98	65.91
TEMP	52.3	53.6	50.9	51.8	49.1	46.4	46.7	46.4	46.5	46.0	50.0	52.0
LAB ID												
LAB NUM	2265	1547	2053	2769	3447	4661	5240	6304	6762	8371	9529	646
METHOD	3	3	3	3	3	3	3	3	3	3	3	3
AQUIF.LOC.	A	A	A	A	A	A	A	A	A	A	A	A
WET												
ALUMINUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.100	0.0	0.0
AMMONIA	0.0	0.300	-0.100	0.200	-0.100	-0.100	0.300	1.700	1.100	5.300	0.030	0.0
ARSENIC	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	0.0
BICARBONAT	660.000	695.000	690.000	700.000	620.000	700.000	700.000	680.000	680.000	570.000	565.000	695.000
CADMIUM	-0.010	-0.010	-0.010	-0.010	-0.010	0.010	-0.010	0.020	-0.010	-0.010	0.090	0.0
CALCIUM	66.000	77.000	68.000	51.000	100.000	190.000	110.000	52.000	69.000	110.000	37.000	55.000
CARBONATE	-0.100	-0.100	-0.100	-0.100	19.000	-0.100	-0.100	-0.100	-0.100	32.000	30.000	-0.100
CHLORIDE	18.000	21.000	12.000	16.000	21.000	16.000	27.000	16.000	16.000	17.000	24.000	20.000
CHROMIUM	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	0.100	-0.010	0.0
COPPER	-0.100	-0.100	0.100	0.300	0.600	0.600	1.100	0.200	0.600	0.200	0.100	0.0
FLUORIDE	0.200	0.400	0.800	0.400	1.200	0.400	0.600	0.300	0.400	0.500	0.100	0.300
HYDROXIDE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IRON	16.000	8.300	4.900	2.300	5.600	7.800	8.900	2.800	16.000	0.200	-0.050	-0.050
LEAD	0.070	0.200	0.100	0.400	0.100	0.200	0.200	0.100	0.100	0.100	0.300	0.0
MAGNESIUM	135.000	125.000	140.000	145.000	120.000	52.000	120.000	150.000	145.000	135.000	135.000	140.000
MERCURY	-0.002	-0.002	-0.002	-0.002	-0.002	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	0.0
NITRATE	1.600	3.500	2.000	3.200	2.200	1.200	1.700	2.000	2.200	0.600	3.600	3.200
PHOSPHATE	0.100	-0.100	-0.100	-0.100	-0.100	-0.100	-0.100	-0.100	0.100	0.400	-0.100	-0.100
POTASSIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.700	1.000	14.000
SELENIUM	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	0.0
SIL DIOXID	32.000	32.000	28.000	32.000	29.000	35.000	29.000	29.000	28.000	28.000	27.000	29.000
SODIUM	185.000	250.000	175.000	230.000	230.000	265.000	230.000	185.000	215.000	175.000	225.000	200.000
SULFATE	500.000	550.000	495.000	560.000	600.000	560.000	580.000	540.000	550.000	600.000	510.000	500.000
SULFIDE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.100	-0.100	0.0
ZINC	0.600	0.400	0.200	0.100	0.300	0.100	1.100	0.300	0.200	0.300	0.100	0.0
GROS ALPHA	11.000	14.000	8.100	16.000	11.000	18.000	14.000	5.900	0.0	0.0	0.0	0.0
GROSS BETA	6.000	0.0	0.0	14.000	0.0	5.000	11.000	31.000	0.0	0.0	0.0	0.0
HARDNESS	720.000	710.000	735.000	715.000	740.000	700.000	740.000	750.000	770.000	0.0	650.000	710.000
PH	6.800	7.200	6.800	6.000	6.100	6.400	6.000	6.600	6.400	6.700	6.200	6.800
CONDUCTANC	2230.000	1914.000	1740.000	1860.000	1870.000	1625.000	1630.000	1903.000	1890.000	1840.000	1925.000	1700.000
DIS SOLIDS	1230.000	1410.000	1260.000	1380.000	1430.000	1470.000	1460.000	1440.000	1520.000	1520.000	1330.000	1560.000
MANGANESE	1.300	0.600	0.100	0.050	0.300	0.800	0.900	0.500	0.800	0.300	-0.050	-0.050
ALKALINITY	540.000	570.000	565.000	575.000	530.000	575.000	570.000	560.000	555.000	490.000	490.000	570.000
CYANIDE	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	0.020	0.010	-0.010	0.030	-0.010	0.0
BORON	2.600	0.300	0.400	0.500	0.500	0.400	0.700	0.700	0.300	0.030	0.200	1.200
BARIUM	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	0.0	0.0	0.0
SILVER	0.010	-0.010	-0.010	-0.010	0.020	-0.010	-0.010	0.010	0.010	0.0	0.0	0.0
NICKEL	0.030	0.050	0.020	0.040	0.060	0.050	0.050	0.070	0.040	0.0	0.0	0.0
LITHIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.100	-0.100	0.0
DOC	19.000	11.000	9.000	9.000	20.000	11.000	16.000	8.000	0.0	4.300	0.0	0.0
NITRITE-N	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.020	-0.100	-0.100
BROMIDE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.100	0.0	0.0

RBOSP PROCESS REPORT

SAMPLES	1	2	3	4	5	6	7	8	9	10	11	12
C.O.D.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.000	14.000	0.0
PHENOLS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.001	-0.001	0.0
KJELDAHL N	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.300	2.000	-0.100
BERYLLIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.020	0.0
MOLYBDENUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STRONTIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VANADIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ORTHO PHOS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.100	-0.100
AMMONIA-N	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.900
DIS-ORG C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.000
MBAS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT COLIF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FEC COLIF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SPECTROGRAPHIC												
ALUMINUM	0.005	0.500	0.010	0.050	0.100	1.000	0.100	0.500	0.500	0.0	0.010	0.0
ANTIMONY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARSENIC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BARIUM	0.001	0.001	0.0	0.0	0.001	0.010	0.001	0.0	0.001	0.0	0.0	0.0
BERYLIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BISMUTH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BORON	0.500	0.500	0.200	0.500	0.500	0.500	0.500	0.020	0.100	0.0	0.200	0.0
CADMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CALCIUM	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	0.0	99999.000	0.0
CERIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CESIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CHROMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.001	0.001	0.0	0.0	0.0
COBALT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COLUMBIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COPPER	0.005	0.010	0.005	0.005	0.001	0.010	0.005	0.050	0.020	0.0	0.010	0.0
DYSPROSIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ERBIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EUROPIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GADOLINIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GALLIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.001	0.0	0.0	0.0
GERMANIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GOLD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HAFNIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HOLMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
INDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IRIDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IRON	0.050	0.100	0.010	0.020	0.010	0.500	0.050	0.500	0.200	0.0	0.001	0.0
LANTHANUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LEAD	0.0	0.0	0.0	0.0	0.0	0.001	0.0	0.100	0.010	0.0	0.010	0.0
LITHIUM	0.010	0.001	0.0	0.010	0.010	0.001	0.001	0.010	0.001	0.0	0.0	0.0
LUTETIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAGNESIUM	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	0.0	99999.000	0.0
MANGANESE	0.001	0.050	0.001	0.010	0.010	0.100	0.050	0.100	0.100	0.0	0.0	0.0
MERCURY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MOLYBDENUM	0.0	0.0	0.001	0.0	0.0	0.010	0.001	0.001	0.001	0.0	0.010	0.0
NEODYMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NICKEL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PALLADIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PLATINUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RBOSP PROGRESS REPORT

SAMPLES	1	2	3	4	5	6	7	8	9	10	11	12
POTASSIUM	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.100	0.100	0.0	0.100	0.0
PRASEODYMI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RADIUM	0.500	0.0	0.400	0.100	0.400	0.200	0.400	0.0	0.0	0.0	0.0	0.0
RHENIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RHODIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RUBIDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RUTHENIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SAMARIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SCANDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SELENIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SILICON	2.000	5.000	2.000	2.000	5.000	5.000	5.000	5.000	5.000	0.0	5.000	0.0
SILVER	0.0	0.001	0.0	0.0	0.0	0.001	0.001	0.005	0.001	0.0	0.001	0.0
SODIUM	10.000	99999.000	10.000	10.000	10.000	10.000	5.000	10.000	5.000	0.0	0.0	0.0
STRONTIUM	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.0	0.100	0.0
TANTALUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TERBIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THALLIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THORIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THULIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TIN	0.0	0.001	0.0	0.0	0.0	0.0	0.0	0.0	0.001	0.0	0.0	0.0
TITANIUM	0.001	0.001	0.0	0.001	0.001	0.001	0.010	0.050	0.100	0.0	0.001	0.0
TUNGSTEN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
URANIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VANADIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.001	0.0	0.0	0.0	0.0
YTTERBIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YTTRIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ZINC	0.0	0.001	0.0	0.0	0.0	0.001	0.0	0.010	0.010	0.0	0.0	0.0
ZIRCONIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RBOSP PROGRESS REPORT

JOB#-741-40 OWNER-PIO BLANCO OIL SHALE PROJECT LOCATIONS: X- 0.0 Y- 0.0 Z- 0.0
DATE DRILL COMPL- 61975 DATE CONV TO MONITOR- 62075 AQUIFER 1: 0.0 - 0.0 FT AQUIFER 2: 0.0 - 0.0 FT

SAMPLES	13	14
DATE	73176	82976
DEPTH	65.06	65.40
TEMP	54.0	49.1
LAB ID		
LAB NUM	1505	2145
METHOD	3	3
AQUIF.LOC.	A	A
WET		
ALUMINUM	0.0	0.0
AMMONIA	0.0	0.400
ARSENIC	0.0	0.0
BICARBONAT	615.000	565.000
CADMIUM	0.0	0.0
CALCIUM	69.000	84.000
CARBONATE	-0.100	42.000
CHLORIDE	31.000	9.900
CHROMIUM	0.0	0.0
COPPER	0.0	0.0
FLUORIDE	0.400	0.200
HYDROXIDE	0.0	0.0
IRON	-0.050	-0.050
LEAD	0.0	0.0
MAGNESIUM	135.000	135.000
MERCURY	0.0	0.0
NITRATE	2.900	4.400
PHOSPHATE	0.200	0.100
POTASSIUM	3.800	6.500
SELENIUM	0.0	0.0
SIL DIOXID	29.000	17.000
SODIUM	270.000	190.000
SULFATE	655.000	530.000
SULFIDE	0.0	0.0
ZINC	0.0	0.0
GROS ALPHA	0.0	0.0
GROSS BETA	0.0	0.0
HARDNESS	730.000	0.0
PH	6.600	6.800
CONDUCTANC	1900.000	1900.000
DIS SOLIDS	1410.000	1430.000
MANGANESE	-0.050	0.0
ALKALINITY	1505.000	495.000
CYANIDE	0.0	0.0
BORON	0.0	3.600
BARIUM	0.0	0.0
SILVER	0.0	0.0
NICKEL	0.0	0.0
LITHIUM	0.0	0.0
DOC	6.000	0.0
NITRITE-N	-0.010	0.0
BROMIDE	0.0	0.0

RDCOP PROGRESS REPORT

SAMPLES	13	14
C.O.D.	0.0	0.0
PHENOLS	0.0	0.0
KJELDAHL N	-0.100	6.100
BERYLLIUM	0.0	0.0
MOLYBDENUM	0.0	0.0
STRONTIUM	0.0	0.0
VANADIUM	0.0	0.0
ORTHO PHOS	-0.100	-0.100
AMMONIA-N	-0.100	0.0
DIS-ORG C	0.0	0.0
MBAS	-0.010	0.0
TOT COLIF	60.000	0.0
FEC COLIF	-10.000	0.0
SPECTROGRAPHIC		
ALUMINUM	0.010	0.0
ANTIMONY	0.0	0.0
ARSENIC	0.0	0.0
BARIUM	0.0	0.0
BERYLIUM	0.0	0.0
BISMUTH	0.0	0.0
BORON	0.200	0.0
CADMIUM	0.0	0.0
CALCIUM	99999.000	0.0
CERIUM	0.0	0.0
CESIUM	0.0	0.0
CHROMIUM	0.0	0.0
COBOLT	0.0	0.0
COLUMBIUM	0.0	0.0
COPPER	0.001	0.0
DYSPROSIUM	0.0	0.0
ERBIUM	0.0	0.0
EUROPIUM	0.0	0.0
GADOLINIUM	0.0	0.0
GALLIUM	0.0	0.0
GERMANIUM	0.0	0.0
GOLD	0.0	0.0
HAFNIUM	0.0	0.0
HOLMIUM	0.0	0.0
INDIUM	0.0	0.0
IRIDIUM	0.0	0.0
IRON	0.010	0.0
LANTHANUM	0.0	0.0
LEAD	0.0	0.0
LITHIUM	0.0	0.0
LUTETIUM	0.0	0.0
MAGNESIUM	99999.000	0.0
MANGANESE	0.0	0.0
MERCURY	0.0	0.0
MOLYBDENUM	0.010	0.0
NEODYMIUM	0.0	0.0
NICKEL	0.0	0.0
OSMIUM	0.0	0.0
PALLADIUM	0.0	0.0
PLATINUM	0.0	0.0

REPRODUCED FROM ORIGINAL

SAMPLES	13	14
POTASSIUM	0.010	0.0
PRASEODYMI	0.0	0.0
RADIUM	0.0	0.0
RHENIUM	0.0	0.0
RHODIUM	0.0	0.0
RUBIDIUM	0.0	0.0
RUTHENIUM	0.0	0.0
SAMARIUM	0.0	0.0
SCANDIUM	0.0	0.0
SELENIUM	0.0	0.0
SILICON	2.000	0.0
SILVER	0.0	0.0
SODIUM	5.000	0.0
STRONTIUM	0.100	0.0
TANTALUM	0.0	0.0
TERBIUM	0.0	0.0
THALLIUM	0.0	0.0
THORIUM	0.0	0.0
THULIUM	0.0	0.0
TIN	0.0	0.0
TITANIUM	0.0	0.0
TUNGSTEN	0.0	0.0
URANIUM	0.0	0.0
VANADIUM	0.0	0.0
YTTERBIUM	0.0	0.0
YTTRIUM	0.0	0.0
ZINC	0.0	0.0
ZIRCONIUM	0.0	0.0

RBCCP PROGRESS REPORT

JOB#-741-40 OWNER-RIO BLANCO OIL SHALE PROJECT LOCATIONS: X- 0.0 Y- 0.0 Z- 0.0
DATE DRILL COMPL- 62075 DATE CONV TO MONITOR- 62075 AQUIFER 1: 0.0 - 0.0 FT AQUIFER 2: 0.0 - 0.0 FT

SAMPLES	1	2	3	4	5	6	7	8	9	10	11	12
DATE	63075	71575	80575	83075	100975	112075	121275	12876	21876	41376	52076	62276
DEPTH	23.50	30.44	30.75	28.81	29.22	30.28	29.35	29.04	28.82	28.55	28.45	28.62
TEMP	50.9	55.0	50.9	49.1	49.1	46.9	48.9	46.6	46.2	46.5	50.9	53.0
LAB ID												
LAB NUM	2267	1548	2054	2770	3448	4662	5241	6305	6763	8372	9530	647
METHOD	3	3	3	3	3	3	3	3	3	3	3	3
AQUIF.LOC.	A	A	A	A	A	A	A	A	A	A	A	A
WET												
ALUMINUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.100	0.0	0.0
AMMONIA	0.0	0.300	-0.100	0.200	-0.100	0.200	-0.100	0.800	1.100	2.000	0.600	0.0
ARSENIC	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	0.0
BICARBONAT	600.000	525.000	590.000	605.000	590.000	600.000	600.000	600.000	600.000	530.000	620.000	615.000
CADMIUM	-0.010	0.010	-0.010	-0.010	-0.010	0.050	-0.010	0.020	0.010	-0.010	0.080	0.0
CALCIUM	96.000	84.000	84.000	50.000	110.000	170.000	130.000	90.000	88.000	130.000	62.000	62.000
CARBONATE	-0.100	-0.100	-0.100	605.000	-0.010	-0.100	-0.100	-0.100	-0.100	18.000	-0.100	-0.100
CHLORIDE	11.000	22.000	12.000	14.000	14.000	16.000	27.000	13.000	19.000	14.000	20.000	31.000
CHROMIUM	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	0.100	-0.010	0.0
COPPER	-0.100	-0.100	0.300	0.200	0.200	-0.100	1.000	0.200	0.400	0.800	-0.100	0.0
FLUORIDE	0.100	0.400	0.400	0.200	0.700	0.300	0.400	0.200	0.200	0.600	0.200	0.200
HYDROXIDE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IRON	0.500	17.700	0.600	1.000	1.100	0.800	8.800	1.200	7.800	0.080	-0.050	-0.050
LEAD	0.040	0.040	0.300	0.300	0.070	0.090	0.200	0.200	0.090	0.300	0.040	0.0
MAGNESIUM	120.000	105.000	130.000	135.000	130.000	67.000	100.000	130.000	110.000	110.000	145.000	135.000
MERCURY	-0.002	-0.002	-0.002	-0.002	-0.002	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	0.0
NITRATE	-0.100	1.600	4.500	2.900	4.400	2.300	2.800	2.800	4.000	0.700	3.100	4.600
PHOSPHATE	-0.100	-0.100	-0.100	-0.100	-0.100	0.200	-0.100	-0.100	0.100	-0.100	1.200	1.600
POTASSIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.500	-1.000	14.000
SELENIUM	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	0.0
SIL DIOXID	32.000	44.000	34.000	28.000	27.000	30.000	28.000	29.000	28.000	27.000	28.000	28.000
SODIUM	160.000	220.000	150.000	220.000	180.000	230.000	230.000	165.000	220.000	160.000	170.000	200.000
SULFATE	510.000	550.000	510.000	580.000	630.000	600.000	600.000	560.000	600.000	680.000	510.000	600.000
SULFIDE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.100	-0.100	0.0
ZINC	0.400	2.600	0.100	0.100	-0.100	0.100	0.700	0.200	0.200	0.600	-0.100	0.0
GROS ALPHA	3.300	16.000	8.500	10.000	9.300	23.000	25.000	8.900	0.0	0.0	0.0	0.0
GROSS BETA	0.0	0.0	0.0	18.000	0.0	27.000	12.000	2.000	0.0	0.0	0.0	0.0
HARDNESS	730.000	650.000	750.000	685.000	800.000	700.000	750.000	750.000	660.000	0.0	745.000	715.000
PH	7.000	7.000	6.800	6.100	6.100	6.000	6.000	6.100	6.100	6.500	6.600	6.900
CONDUCTANC	2275.000	1920.000	1680.000	1780.000	1670.000	1730.000	1770.000	1904.000	1760.000	1780.000	1850.000	1540.000
DIS SOLIDS	1220.000	1300.000	1210.000	1320.000	1390.000	1410.000	1450.000	1260.000	1420.000	1430.000	1380.000	1500.000
MANGANESE	0.200	13.000	0.300	-0.050	-0.050	5.500	5.200	0.300	1.000	0.100	0.060	-0.050
ALKALINITY	490.000	430.000	485.000	495.000	480.000	495.000	490.000	490.000	490.000	450.000	510.000	505.000
CYANIDE	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	0.0
BORON	0.900	0.100	0.600	0.600	0.300	0.100	0.100	-0.100	0.100	0.030	0.100	-0.100
BARIUM	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	0.0	0.0	0.0
SILVER	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	0.010	0.040	0.010	0.0	0.0	0.0
NICKEL	0.010	0.030	0.020	0.030	0.070	0.200	0.200	0.050	0.060	0.0	0.0	0.0
LITHIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.100	-0.100	0.0
DOC	44.000	75.000	10.000	20.000	7.000	90.000	42.000	8.000	0.0	3.800	0.0	0.0
NITRITE-N	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.020	-0.100	-0.100
BROMIDE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.900	0.0	0.0

SAMPLES	1	2	3	4	5	6	7	8	9	10	11	12
C.O.D.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.500	12.000	0.0
PHENOLS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.001	-0.001	0.0
KJELDAHL N	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.700	1.100	-0.100
BERYLLIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.400	0.0
MOLYBDENUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STRONTIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VANADIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ORTHO PHOS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.000	-0.100
AMMONIA-N	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.600
DIS-ORG C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.000
MBAS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT COLIF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FEC COLIF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SPECTROGRAPHIC												
ALUMINUM	0.050	0.500	0.050	0.010	0.010	0.500	0.500	0.500	0.500	0.0	0.010	0.0
ANTIMONY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARSENIC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BARIUM	0.0	0.0	0.0	0.001	0.0	0.001	0.010	0.001	0.001	0.0	0.0	0.0
BERYLIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BISMUTH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BORON	0.200	0.500	0.500	0.200	0.500	0.500	0.500	0.020	0.500	0.0	0.500	0.0
CADMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CALCIUM	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	0.0	99999.000	0.0
CERIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CESIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CHROMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.001	0.001	0.0	0.0	0.0
COBALT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COLUMBIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COPPER	0.010	0.010	0.010	0.010	0.010	0.010	0.020	0.050	0.050	0.0	0.050	0.0
DYSPROSIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ERBIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EUROPIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GADOLINIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GALLIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GERMANIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GOLD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HAFNIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HOLMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
INDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IRIDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IRON	0.050	0.020	0.020	0.050	0.020	0.100	0.050	0.200	0.200	0.0	0.001	0.0
LANTHANUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LEAD	0.0	0.0	0.0	0.0	0.0	0.0	0.001	0.100	0.020	0.0	0.500	0.0
LITHIUM	0.001	0.010	0.010	0.001	0.001	0.001	0.001	0.010	0.001	0.0	0.0	0.0
LUTETIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAGNESIUM	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	0.0	99999.000	0.0
MANGANESE	0.005	0.050	0.005	0.010	0.001	0.050	0.100	0.100	0.050	0.0	0.0	0.0
MERCURY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MOLYBDENUM	0.0	0.001	0.0	0.001	0.001	0.001	0.0	0.001	0.010	0.0	0.020	0.0
NEODYMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NICKEL	0.0	0.0	0.0	0.0	0.070	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PALLADIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PLATINUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RBOSP PROGRESS REPORT

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SAMPLES	1	2	3	4	5	6	7	8	9	10	11	12
POTASSIUM	0.100	1.000	1.000	0.100	1.000	1.000	1.000	0.010	0.010	0.0	0.100	0.0
PRASEODYMI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RADIUM	0.0	0.100	0.200	0.0	0.200	0.100	0.300	0.0	0.0	0.0	0.0	0.0
RHENIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RHODIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RUBIDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RUTHENIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SAMARIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SCANDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SELENIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SILICON	5.000	10.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	0.0	5.000	0.0
SILVER	0.0	0.001	0.0	0.0	0.0	0.0	0.0	0.010	0.0	0.0	0.0	0.0
SODIUM	5.000	99999.000	99999.000	2.000	5.000	10.000	5.000	5.000	5.000	0.0	10.000	0.0
STRONTIUM	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.0	0.100	0.0
TANTALUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TERBIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THALLIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THORIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THULIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TIN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TITANIUM	0.001	0.010	0.0	0.001	0.0	0.001	0.001	0.010	0.100	0.0	0.001	0.0
TUNGSTEN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
URANIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VANADIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.001	0.0	0.0	0.0	0.0
YTTERBIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YTTRIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ZINC	0.001	0.0	0.001	0.0	0.001	0.0	0.0	0.010	0.010	0.0	0.0	0.0
ZIRCONIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RBOSP PROGRESS REPORT

JOB#-741-40 OWNER-RIO BLANCO OIL SHALE PROJECT LOCATIONS: X- 0.0 Y- 0.0 Z- 0.0
DATE DRILL COMPL- 62075 DATE CONV TO MONITOR- 62075 AQUIFER 1: 0.0 - 0.0 FT AQUIFER 2: 0.0 - 0.0 FT

SAMPLES	13	14
DATE	73176	82976
DEPTH	29.16	29.51
TEMP	52.0	48.7
LAB ID		
LAB NUM	1506	2146
METHOD	3	3
AQUIF.LOC.	A	A
WET		
ALUMINUM	0.0	0.0
AMMONIA	0.0	0.400
ARSENIC	0.0	0.0
BICARBONAT	555.000	520.000
CADMIUM	0.0	0.0
CALCIUM	90.000	98.000
CARBONATE	-0.100	0.0
CHLORIDE	21.000	9.900
CHROMIUM	0.0	0.0
COPPER	0.0	0.0
FLUORIDE	0.300	-0.100
HYDROXIDE	0.0	0.0
IRON	-0.050	-0.050
LEAD	0.0	0.0
MAGNESIUM	115.000	120.000
MERCURY	0.0	0.0
NITRATE	3.300	0.200
PHOSPHATE	0.100	0.100
POTASSIUM	2.400	5.500
SELENIUM	0.0	0.0
SIL DIOXID	28.000	17.000
SODIUM	220.000	150.000
SULFATE	685.000	570.000
SULFIDE	0.0	0.0
ZINC	0.0	0.0
GROS ALPHA	0.0	0.0
GROSS BETA	0.0	0.0
HARDNESS	705.000	0.0
PH	6.400	6.400
CONDUCTANC	1620.000	1820.000
DIS SOLIDS	1410.000	1390.000
MANGANESE	-0.050	0.0
ALKALINITY	455.000	450.000
CYANIDE	0.0	0.0
BORON	0.0	0.200
BARIUM	0.0	0.0
SILVER	0.0	0.0
NICKEL	0.0	0.0
LITHIUM	0.0	0.0
DOC	15.000	0.0
NITRITE-N	-0.010	0.0
BROMIDE	0.0	0.0

RBOSP PROGRESS REPORT

SAMPLES	13	14
C.O.D.	0.0	0.0
PHENOLS	0.0	0.0
KJELDAHL N	-0.100	1.400
BERYLLIUM	0.0	0.0
MOLYBDENUM	0.0	0.0
STRONTIUM	0.0	0.0
VANADIUM	0.0	0.0
ORTHO PHOS	0.100	-0.100
AMMONIA-N	-0.100	0.0
DIS-ORG C.	0.0	0.0
MBAS	-0.010	0.0
TOT COLIF	90.000	0.0
FEC COLIF	-10.000	0.0
SPECTROGRAPHIC		
ALUMINUM	1.000	0.0
ANTIMONY	0.0	0.0
ARSENIC	0.0	0.0
BARIUM	0.0	0.0
BERYLIUM	0.0	0.0
BISMUTH	0.0	0.0
BORON	0.500	0.0
CADMIUM	0.0	0.0
CALCIUM	99999.000	0.0
CERIUM	0.0	0.0
CESIUM	0.0	0.0
CHROMIUM	0.001	0.0
COBOLT	0.0	0.0
COLUMBIUM	0.0	0.0
COPPER	0.020	0.0
DYSPROSIUM	0.0	0.0
ERBIUM	0.0	0.0
EUROPIUM	0.0	0.0
GADOLINIUM	0.0	0.0
GALLIUM	0.0	0.0
GERMANIUM	0.0	0.0
GOLD	0.0	0.0
HAFNIUM	0.0	0.0
HOLMIUM	0.0	0.0
INDIUM	0.0	0.0
IRIDIUM	0.0	0.0
IRON	0.100	0.0
LANTHANUM	0.0	0.0
LEAD	0.050	0.0
LITHIUM	0.0	0.0
LUTETIUM	0.0	0.0
MAGNESIUM	99999.000	0.0
MANGANESE	0.010	0.0
MERCURY	0.0	0.0
MOLYBDENUM	0.010	0.0
NEODYMIUM	0.0	0.0
NICKEL	0.0	0.0
OSMIUM	0.0	0.0
PALLADIUM	0.0	0.0
PLATINUM	0.0	0.0

RBOSP PROGRESS REPORT

NNN 123-0000

SAMPLES	13	14
POTASSIUM	0.010	0.0
PRASEODYMI	0.0	0.0
RADIUM	0.0	0.0
RHENIUM	0.0	0.0
RHODIUM	0.0	0.0
RUBIDIUM	0.0	0.0
RUTHENIUM	0.0	0.0
SAMARIUM	0.0	0.0
SCANDIUM	0.0	0.0
SELENIUM	0.0	0.0
SILICON	5.000	0.0
SILVER	0.0	0.0
SODIUM	5.000	0.0
STRONTIUM	0.100	0.0
TANTALUM	0.0	0.0
TERBIUM	0.0	0.0
THALLIUM	0.0	0.0
THORIUM	0.0	0.0
THULIUM	0.0	0.0
TIN	0.0	0.0
TITANIUM	0.010	0.0
TUNGSTEN	0.0	0.0
URANIUM	0.0	0.0
VANADIUM	0.0	0.0
YTTERBIUM	0.0	0.0
YTTRIUM	0.0	0.0
ZINC	0.001	0.0
ZIRCONIUM	0.0	0.0

RBCCP PROGRESS REPORT

JOB#-741-40 OWNER-RIO BLANCO OIL SHALE PROJECT LOCATIONS: X- 0.0 Y- 0.0 Z- 0.0
DATE DRILL COMPL- 61875 DATE CONV TO MONITOR- 61875 AQUIFER 1: 0.0 - 0.0 FT AQUIFER 2: 0.0 - 0.0 FT

SAMPLES	1	2	3	4	5	6	7	8	9	10	11	12
DATE	63075	71575	80575	83075	101075	112075	121275	12876	21876	41376	52076	62376
DEPTH	5.20	7.99	8.12	5.81	6.25	7.45	6.22	6.43	6.75	7.17	9.08	6.25
TEMP	52.5	51.8	50.0	10.9	46.6	46.8	46.4	44.6	44.2	46.4	45.5	48.0
LAB ID												
LAB NUM	2268	1549	2055	2771	3449	4663	5242	6306	6764	8373	9531	648
METHOD	3	3	3	3	3	3	3	3	3	3	3	3
AQUIF.LOC.	A	A	A	A	A	A	A	A	A	A	A	A
WET												
ALUMINUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.100	0.0	0.0
AMMONIA	0.0	0.400	-0.100	0.200	-0.100	0.100	-0.100	1.100	2.000	0.200	0.500	0.0
ARSENIC	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	0.0
BICARBONAT	580.000	590.000	635.000	540.000	510.000	620.000	600.000	590.000	580.000	470.000	545.000	610.000
CADMIUM	-0.010	-0.010	-0.010	-0.010	-0.010	0.020	-0.010	0.030	0.020	-0.010	0.100	0.0
CALCIUM	31.000	75.000	84.000	48.000	77.000	180.000	120.000	110.000	92.000	110.000	70.000	75.000
CARBONATE	-0.100	-0.100	-0.100	30.000	31.000	-0.100	-0.100	-0.100	-0.100	32.000	36.000	-0.100
CHLORIDE	9.500	25.000	11.000	14.000	21.000	22.000	17.000	16.000	11.000	14.000	30.000	18.000
CHROMIUM	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	0.200	-0.010	0.0
COPPER	-0.100	-0.100	-0.100	0.200	0.400	0.800	1.300	0.200	0.300	-0.100	0.300	0.0
FLUORIDE	0.200	0.300	0.400	0.200	0.800	0.300	0.400	0.200	0.200	0.400	0.200	0.200
HYDROXIDE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IRON	2.900	13.300	1.900	8.100	1.500	7.600	8.200	3.800	8.500	0.070	-0.050	-0.050
LEAD	0.040	0.800	0.300	0.500	0.200	0.200	0.200	0.200	0.090	0.010	0.400	0.0
MAGNESIUM	145.000	81.000	110.000	140.000	120.000	40.000	92.000	100.000	80.000	100.000	105.000	110.000
MERCURY	-0.002	-0.002	-0.002	-0.002	-0.002	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	0.0
NITRATE	5.200	4.600	5.100	8.500	7.800	4.400	5.000	6.000	8.000	2.000	4.400	8.000
PHOSPHATE	-0.100	-0.100	-0.100	-0.100	-0.100	0.100	-0.100	-0.100	0.100	-0.100	-0.100	0.100
POTASSIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.100	1.000	12.000
SELENIUM	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	0.0
SIL DIOXID	28.000	30.000	29.000	28.000	28.000	28.000	27.000	28.000	27.000	28.000	29.000	27.000
SODIUM	175.000	250.000	185.000	165.000	160.000	230.000	180.000	140.000	195.000	180.000	240.000	180.000
SULFATE	510.000	500.000	485.000	460.000	460.000	460.000	470.000	460.000	450.000	560.000	500.000	450.000
SULFIDE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.100	-0.010	0.0
ZINC	0.100	1.500	0.100	0.200	-0.100	13.000	0.200	0.400	0.200	0.200	0.400	0.0
GROS ALPHA	9.300	4.700	9.100	9.300	11.000	18.000	23.000	16.000	0.0	0.0	0.0	0.0
GROSS BETA	0.0	4.000	0.0	0.0	0.0	0.0	19.000	24.000	0.0	0.0	0.0	0.0
HARDNESS	665.000	520.000	655.000	700.000	700.000	620.000	680.000	700.000	560.000	0.0	610.000	635.000
PH	7.000	7.000	7.000	6.100	6.100	6.300	6.200	6.500	6.300	6.600	6.000	6.500
CONDUCTANC	1910.000	1688.000	1490.000	1590.000	1540.000	1570.000	1600.000	1714.000	1750.000	1770.000	1725.000	1440.000
DIS SOLIDS	1190.000	1260.000	1220.000	1170.000	1160.000	1280.000	1210.000	1120.000	1230.000	1250.000	1270.000	1320.000
MANGANESE	0.100	1.100	0.100	0.800	0.060	0.800	2.100	0.600	1.000	0.200	0.700	-0.050
ALKALINITY	475.000	480.000	520.000	464.000	440.000	505.000	490.000	485.000	475.000	410.000	475.000	500.000
CYANIDE	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	0.020	0.010	-0.010	0.030	-0.010	0.200
BORON	0.600	-0.010	0.600	0.400	0.400	0.100	0.300	0.300	0.200	0.050	8.200	0.0
BARIUM	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	0.0	0.0	0.0
SILVER	-0.010	-0.010	-0.010	-0.010	0.010	-0.010	-0.010	0.040	0.030	0.0	0.0	0.0
NICKEL	0.010	0.060	0.010	0.060	0.050	0.050	0.100	0.090	0.010	0.0	0.0	0.0
LITHIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.100	0.100	0.0
DOC	19.000	12.000	23.000	11.000	16.000	30.000	28.000	10.000	0.0	3.900	0.0	0.0
NITRITE-N	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.020	-0.100	-0.100
BROMIDE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.800	0.0	0.0

SAMPLES	1	2	3	4	5	6	7	8	9	10	11	12
C.O.D.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.000	17.000	0.0
PHENOLS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.001	-0.001	0.0
KJELDAHL N	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.400	1.400	-0.100
BERYLLIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.300	0.0
MOLYBDENUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STRONTIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VANADIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ORTHO PHOS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.100	-0.100
AMMONIA-N	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.200
DIS-ORG C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.000
MBAS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT COLIF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FEC COLIF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SPECTROGRAPHIC												
ALUMINUM	0.010	0.200	0.100	0.100	0.100	1.000	0.100	1.000	1.000	0.0	0.100	0.0
ANTIMONY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARSENIC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BARIUM	0.0	0.0	0.001	0.0	0.0	0.001	0.001	0.010	0.010	0.0	0.0	0.0
BERYLIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BISMUTH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BORON	0.200	0.200	0.500	0.200	0.200	0.500	0.500	0.020	0.500	0.0	0.500	0.0
CADMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CALCIUM	99999.000	99999.000	10.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	0.0	99999.000	0.0
CERIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CESIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CHROMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.001	0.001	0.0	0.0	0.0
COBALT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COLUMBIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COPPER	0.005	0.010	0.010	0.005	0.020	0.020	0.020	0.050	0.050	0.0	0.010	0.0
DYSPROSIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ERBIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EUROPIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GADOLINIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GALLIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GERMANIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GOLD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HAFNIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HOLMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
INDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IRIDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IRON	0.020	0.050	0.050	0.020	0.050	0.050	0.050	1.000	1.000	0.0	0.010	0.0
LANTHANUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LEAD	0.0	0.0	0.0	0.0	0.0	0.001	0.001	0.100	0.020	0.0	0.010	0.0
LITHIUM	0.010	0.010	0.010	0.010	0.001	0.001	0.001	0.0	0.001	0.0	0.0	0.0
LUTETIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAGNESIUM	10.000	99999.000	5.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	0.0	99999.000	0.0
MANGANESE	0.001	0.100	0.010	0.005	0.010	0.100	0.100	0.500	0.100	0.0	0.0	0.0
MERCURY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MOLYBDENUM	0.0	0.001	0.005	0.0	0.0	0.001	0.001	0.001	0.010	0.0	0.010	0.0
NEODYMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NICKEL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PALLADIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PLATINUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RBOSP PROGRESS REPORT

SAMPLES	1	2	3	4	5	6	7	8	9	10	11	12
POTASSIUM	1.000	1.000	1.000	1.000	0.100	1.000	1.000	0.010	0.100	0.0	0.010	0.0
PRASEODYMI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RADIUM	0.400	0.200	0.200	0.0	0.700	0.0	0.600	0.0	0.0	0.0	0.0	0.0
RHENIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RHODIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RUBIDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RUTHENIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SAMARIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SCANDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SELENIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SILICON	5.000	10.000	5.000	5.000	5.000	2.000	2.000	10.000	5.000	0.0	5.000	0.0
SILVER	0.0	0.001	0.0	0.0	0.0	0.001	0.001	0.010	0.0	0.0	0.0	0.0
SODIUM	99999.000	99999.000	99999.000	10.000	5.000	5.000	5.000	5.000	5.000	0.0	5.000	0.0
STRONTIUM	0.100	0.100	0.010	0.100	0.100	0.100	0.100	0.100	0.100	0.0	0.100	0.0
TANTALUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TERBIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THALLIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THORIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THULIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TIN	0.0	0.0	0.0	0.0	0.0	0.001	0.001	0.0	0.0	0.0	0.0	0.0
TITANIUM	0.0	0.001	0.0	0.0	0.001	0.001	0.010	0.050	0.100	0.0	0.001	0.0
TUNGSTEN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
URANIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VANADIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.001	0.0	0.0	0.0	0.0
YTTERBIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.001	0.0	0.0	0.0	0.0
YTTRIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.010	0.0	0.0	0.0	0.0
ZINC	0.0	0.001	0.0	0.0	0.0	0.001	0.0	0.010	0.010	0.0	0.0	0.0
ZIRCONIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RBCSP PROGRESS REPORT

NINI-123-0000

JOB#-741-40 OWNER-RIO BLANCO OIL SHALE PROJECT LOCATIONS: X- 0.0 Y- 0.0 Z- 0.0
DATE DRILL COMPL- 61875 DATE CONV TO MONITOR- 61875 AQUIFER 1: 0.0 - 0.0 FT AQUIFER 2: 0.0 - 0.0 FT

SAMPLES	13	14
DATE	73176	82976
DEPTH	6.95	6.69
TEMP	52.0	50.9
LAB ID		
LAB NUM	1507	2147
METHOD	3	3
AQUIF.LOC.	A	A
WET		
ALUMINUM	0.0	0.0
AMMONIA	0.0	0.400
ARSENIC	0.0	0.0
BICARBONAT	480.000	555.000
CADMIUM	0.0	0.0
CALCIUM	49.000	125.000
CARBONATE	-0.100	-0.100
CHLORIDE	14.000	13.000
CHROMIUM	0.0	0.0
COPPER	0.0	0.0
FLUORIDE	0.300	0.100
HYDROXIDE	0.0	0.0
IRON	-0.050	-0.050
LEAD	0.0	0.0
MAGNESIUM	125.000	92.000
MERCURY	0.0	0.0
NITRATE	5.800	6.800
PHOSPHATE	-0.100	0.100
POTASSIUM	3.000	0.0
SELENIUM	0.0	0.0
SIL DIOXID	28.000	17.000
SODIUM	180.000	150.000
SULFATE	580.000	450.000
SULFIDE	0.0	0.0
ZINC	0.0	0.0
GROS ALPHA	0.0	0.0
GROSS BETA	0.0	0.0
HARDNESS	640.000	0.0
PH	6.600	6.600
CONDUCTANC	1520.000	1680.000
DIS SOLIDS	1170.000	1260.000
MANGANESE	-0.050	0.0
ALKALINITY	395.000	455.000
CYANIDE	0.0	0.0
BORON	0.0	0.200
BARIUM	0.0	0.0
SILVER	0.0	0.0
NICKEL	0.0	0.0
LITHIUM	0.0	0.0
DOC	14.000	0.0
NITRITE-N	-0.010	0.0
BROMIDE	0.0	0.0

RBOSP PROGRESS REPORT

SAMPLES	13	14
C.O.D.	0.0	0.0
PHENOLS	0.0	0.0
KJELDAHL N	-0.100	0.700
BERYLLIUM	0.0	0.0
MOLYBDENUM	0.0	0.0
STRONTIUM	0.0	0.0
VANADIUM	0.0	0.0
O-THO PHOS	-0.100	-0.100
AMMONIA-N	-0.100	0.0
DIS-ORG C	0.0	0.0
MBAS	-0.010	0.0
TOT COLIF	-10.000	0.0
FEC COLIF	-10.000	0.0
SPECTROGRAPHIC		
ALUMINUM	0.010	0.0
ANTIMONY	0.0	0.0
ARSENIC	0.0	0.0
BARIUM	0.0	0.0
BERYLIUM	0.0	0.0
BISMUTH	0.0	0.0
BORON	0.200	0.0
CADMIUM	0.0	0.0
CALCIUM	99999.000	0.0
CERIUM	0.0	0.0
CESIUM	0.0	0.0
CHROMIUM	0.0	0.0
COBOLT	0.0	0.0
COLUMBIUM	0.0	0.0
COPPER	0.001	0.0
DYSPROSIUM	0.0	0.0
ERBIUM	0.0	0.0
EUROPIUM	0.0	0.0
GADOLINIUM	0.0	0.0
GALLIUM	0.0	0.0
GERMANIUM	0.0	0.0
GOLD	0.0	0.0
HAFNIUM	0.0	0.0
HOLMIUM	0.0	0.0
INDIUM	0.0	0.0
IRIDIUM	0.0	0.0
IRON	0.010	0.0
LANTHANUM	0.0	0.0
LEAD	0.0	0.0
LITHIUM	0.0	0.0
LUTETIUM	0.0	0.0
MAGNESIUM	99999.000	0.0
MANGANESE	0.0	0.0
MERCURY	0.0	0.0
MOLYBDENUM	0.010	0.0
NEODYMIUM	0.0	0.0
NICKEL	0.0	0.0
OSMIUM	0.0	0.0
PALLADIUM	0.0	0.0
PLATINUM	0.0	0.0

RBCCP PROGRESS REPORT

NN 123-0000

SAMPLES	13	14
POTASSIUM	0.010	0.0
PRASEODYMI	0.0	0.0
RADIUM	0.0	0.0
RHENIUM	0.0	0.0
RHODIUM	0.0	0.0
RUBIDIUM	0.0	0.0
RUTHENIUM	0.0	0.0
SAMARIUM	0.0	0.0
SCANDIUM	0.0	0.0
SELENIUM	0.0	0.0
SILICON	2.000	0.0
SILVER	0.0	0.0
SODIUM	5.000	0.0
STRONTIUM	0.100	0.0
TANTALUM	0.0	0.0
TERBIUM	0.0	0.0
THALLIUM	0.0	0.0
THORIUM	0.0	0.0
THULIUM	0.0	0.0
TIN	0.0	0.0
TITANIUM	0.0	0.0
TUNGSTEN	0.0	0.0
URANIUM	0.0	0.0
VANADIUM	0.0	0.0
YTTERBIUM	0.0	0.0
YTTRIUM	0.0	0.0
ZINC	0.0	0.0
ZIRCONIUM	0.0	0.0

BECOP LIBRARIES

WATER QUALITY ANALYSIS SUMMARY

SAMPLE ITEM RANGE AND AVERAGE

ITEM	COMBINED AQUIFER LOW	HIGH	AVERAGE	# ITEMS AVERAGED	STD DEV.	A AQUIFER LOW	HIGH	AVERAGE	# ITEMS AVERAGED	STD DEV.
WET										
ALUMINUM	-0.050	0.100	0.005	21	0.022	-0.100	1.200	0.140	10	0.375
AMMONIA	-0.100	3.000	0.974	28	0.968	0.030	6.400	0.537	107	0.883
ARSENIC	-0.010	0.500	0.038	30	0.099	-0.010	-0.100	0.000	111	0.001
BICARBONAT	350.000	19600.000	2073.000	58	2969.498	360.000	780.000	563.134	134	100.734
CADMIUM	-0.010	0.070	0.009	24	0.016	-0.010	1.100	0.031	111	0.111
CALCIUM	0.100	88.000	26.290	58	21.352	28.000	240.000	99.463	134	35.876
CARBONATE	-0.100	3000.000	163.982	57	402.420	-0.010	605.000	10.737	133	53.378
CHLORIDE	3.000	6600.000	238.352	58	889.457	1.300	71.000	17.399	134	8.005
CHROMIUM	-0.010	0.570	0.057	24	0.132	-0.010	0.200	0.008	110	0.036
COPPER	-0.010	0.100	0.004	24	0.020	-0.010	8.000	0.481	111	1.179
FLUORIDE	0.200	60.000	12.869	58	13.742	-0.100	1.200	0.335	133	0.181
HYDROXIDE	-0.100	-0.100	0.0	30	0.0	**********	0.0	0.0	0	0.0
IRON	-0.050	16.000	0.685	51	2.356	-0.050	28.000	5.573	134	5.957
LEAD	-0.050	0.500	0.065	24	0.107	0.010	13.000	0.346	110	1.239
MAGNESIUM	0.700	96.000	27.265	57	23.215	3.700	150.000	87.179	134	36.417
MERCURY	-0.010	-0.010	0.0	16	0.0	-0.001	-0.010	0.000	111	0.000
NITRATE	-0.100	15.000	1.152	58	2.603	-0.100	165.000	6.434	134	15.154
PHOSPHATE	-0.100	8.200	2.425	24	2.555	-0.010	1.600	0.059	134	0.187
POTASSIUM	0.400	76.000	15.167	30	22.808	-1.000	14.000	4.942	36	3.790
SELENIUM	-0.010	-0.100	0.000	30	0.002	-0.010	-0.100	0.0	111	0.0
SIL DIOXID	6.400	41.000	17.790	58	7.756	16.000	44.000	30.134	134	5.366
SODIUM	165.000	12000.000	1007.276	58	1644.394	72.000	450.000	188.515	134	59.044
SULFATE	-4.000	535.000	180.534	58	129.273	145.000	1000.000	457.649	134	158.339
SULFIDE	0.400	12.000	2.753	19	2.711	-0.010	-0.100	0.0	14	0.0
ZINC	0.400	1.000	0.286	14	0.374	0.010	13.000	0.669	109	1.404
GROS ALPHA	0.500	12.000	6.675	8	3.988	1.400	31.000	11.980	85	6.720
GROSS BETA	1.000	57.000	26.229	7	22.851	1.000	35.000	13.340	30	10.009
HARDNESS	30.000	520.000	175.000	57	128.940	280.000	820.000	600.875	120	141.009
PH	6.800	8.800	7.904	57	0.515	-6.000	7.200	6.425	132	0.645
CONDUCTANC	880.000	28000.000	3426.754	57	3980.044	860.000	2370.000	1549.480	134	359.286
DIS SOLIDS	650.000	30700.000	2869.509	57	4277.074	640.000	2090.000	1191.978	134	291.505
MANGANESE	-0.050	0.320	0.018	40	0.064	-0.050	27.000	2.705	126	4.374
ALKALINITY	31.000	9310.000	1069.629	27	1729.022	310.000	1505.000	474.180	134	120.858
CYANIDE	**********	0.0	0.0	0	0.0	-0.010	0.200	0.004	112	0.020
BORON	-0.050	1.500	0.620	10	0.565	-0.010	27.000	1.103	126	2.871
BARIUM	**********	0.0	0.0	0	0.0	-1.000	-1.000	0.0	97	0.0
SILVER	**********	0.0	0.0	0	0.0	-0.010	-0.100	0.007	96	0.013
NICKEL	**********	0.0	0.0	0	0.0	0.010	0.200	0.074	97	0.057
LITHIUM	**********	0.0	0.0	0	0.0	-0.100	0.100	0.014	14	0.036
DOC	**********	0.0	0.0	0	0.0	2.900	292.000	47.858	98	60.328
NITRITE-N	**********	0.0	0.0	0	0.0	-0.010	0.100	0.004	29	0.019
BROMIDE	**********	0.0	0.0	0	0.0	0.100	0.900	0.717	6	0.306
C.O.D.	**********	0.0	0.0	0	0.0	2.500	85.000	18.893	14	20.772
PHENOLS	**********	0.0	0.0	0	0.0	-0.001	-0.001	0.0	14	0.0
KJELDAHL N	**********	0.0	0.0	0	0.0	-0.100	8.800	1.811	37	1.973
BERYLLIUM	**********	0.0	0.0	0	0.0	-0.020	2.500	0.612	8	0.884
MOLYBDENUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
STRONTIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
VANADIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0

RECSP PROGRESS REPORT

0000-223 NNN

WATER QUALITY ANALYSIS SUMMARY

SAMPLE ITEM RANGE AND AVERAGE

ITEM	COMBINED AQUIFER LOW	HIGH	AVERAGE	# ITEMS AVERAGED	STD DEV.	A AQUIFER LOW	HIGH	AVERAGE	# ITEMS AVERAGED	STD DEV.
ORTHO PHOS	**********	0.0	0.0	0	0.0	-0.100	1.000	0.055	31	0.182
AMMONIA-N	**********	0.0	0.0	0	0.0	-0.100	5.300	0.753	15	1.378
DIS-ORG C	**********	0.0	0.0	0	0.0	2.000	3.000	2.125	8	0.354
MBAS	**********	0.0	0.0	0	0.0	-0.010	-0.010	0.0	6	0.0
TOT COLIF	**********	0.0	0.0	0	0.0	-10.000	250.000	81.429	7	91.911
FEC COLIF	**********	0.0	0.0	0	0.0	-10.000	40.000	8.571	7	15.736
SPECTROGRAPHIC										
ALUMINUM	0.010	1.000	0.182	50	0.201	0.005	5.000	0.487	111	0.987
ANTIMONY	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
ARSENIC	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
BARIUM	0.100	0.100	0.100	1	0.0	0.001	0.050	0.008	49	0.013
BERYLIUM	**********	0.0	0.0	0	0.0	0.001	0.001	0.001	5	0.0
BISMUTH	0.100	0.100	0.100	1	0.0	**********	0.0	0.0	0	0.0
BORON	0.050	5.000	0.456	53	0.935	0.010	0.500	0.344	111	0.179
CADMIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
CALCIUM	2.000	99999.000	5.500	4	3.317	10.000	99999.000	10.000	6	0.0
CERIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
CESIUM	**********	0.0	0.0	0	0.0	0.001	0.001	0.001	1	0.0
CHROMIUM	0.001	0.050	0.012	13	0.014	0.000	0.020	0.004	17	0.006
COBALT	**********	0.0	0.0	0	0.0	0.001	0.001	0.001	4	0.0
COLUMBIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
COPPER	0.000	0.050	0.006	30	0.009	0.001	0.050	0.014	110	0.014
DYSPROSIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
ERBIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
EUROPIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
GADOLINIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
GALLIUM	**********	0.0	0.0	0	0.0	0.001	0.010	0.004	6	0.005
GERMANIUM	**********	0.0	0.0	0	0.0	0.001	0.001	0.001	1	0.0
GOLD	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
HAFNIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
HOLMIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
INDIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
IRIDIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
IRON	0.010	10.000	0.518	50	1.773	0.001	5.000	0.280	111	0.751
LANTHANUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
LEAD	0.005	0.500	0.129	9	0.212	0.001	0.500	0.036	45	0.083
LITHIUM	0.001	1.000	0.153	36	0.259	0.001	0.100	0.007	85	0.015
LUTETIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
MAGNESIUM	1.000	99999.000	6.750	12	3.079	5.000	99999.000	2228.111	9	4405.680
MANGANESE	0.010	10.000	0.520	22	2.120	0.001	0.500	0.066	104	0.119
MERCURY	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
MOLYBDENUM	0.001	0.061	0.012	28	0.017	0.001	0.050	0.007	71	0.010
NEODYMIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
NICKEL	**********	0.0	0.0	0	0.0	0.001	0.070	0.011	7	0.026
OSMIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
PALLADIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
PLATINUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
POTASSIUM	0.100	99999.000	1.538	42	2.383	0.010	2.000	0.585	111	0.505
PRASEODYMI	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
RADIUM	0.300	0.500	0.400	3	0.100	0.100	1.200	0.341	61	0.233

RBOSP PROGRESS REPORT

SAMPLE ITEM RANGE AND AVERAGE

ITEM	COMBINED AQUIFER LOW	HIGH	AVERAGE	# ITEMS AVERAGED	STD DEV.	A AQUIFER LOW	HIGH	AVERAGE	# ITEMS AVERAGED	STD DEV.
RHENIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
RHODIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
RUBIDIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
RUTHENIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
SAMARIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
SCANDIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
SELENIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
SILICON	5.000	99999.000	16.245	53	8.190	2.000	99999.000	4.972	109	2.651
SILVER	0.000	0.000	0.000	3	0.000	0.000	0.100	0.008	34	0.024
SODIUM	99999.000	99999.000	0.0	0	0.0	1.000	99999.000	6.239	88	2.758
STRONTIUM	0.100	0.500	0.185	34	0.144	0.010	1.000	0.105	108	0.089
TANTALUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
TERBIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
THALLIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
THORIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
THULIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
TIN	**********	0.0	0.0	0	0.0	0.001	0.001	0.001	15	0.0
TITANIUM	0.001	0.200	0.020	38	0.036	0.001	1.000	0.029	91	0.118
TUNGSTEN	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
URANIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
VANADIUM	0.001	0.050	0.019	19	0.020	0.001	0.020	0.007	10	0.008
YTTERBIUM	**********	0.0	0.0	0	0.0	0.001	0.001	0.001	5	0.0
YTTRIUM	**********	0.0	0.0	0	0.0	0.010	0.020	0.012	5	0.004
ZINC	0.005	0.100	0.041	4	0.044	0.001	0.020	0.005	44	0.006
ZIRCONIUM	**********	0.0	0.0	0	0.0	0.010	0.010	0.010	2	0.0

SAMPLES IN AQUIFER = 58

SAMPLES IN AQUIFER = 134

RDOSP PROGRESS REPORT

UPPER AND LOWER AQUIFER MONITORING

SECTION 1.2.7

WET CHEMICAL AND SPECTROGRAPHIC ANALYSES, UPPER AND LOWER AQUIFER

WATER LEVEL DATA, UPPER AND LOWER AQUIFERS

RBOSP PROGRESS REPORT

EXPLANATION -- WATER QUALITY COMPUTER OUTPUT SHEETS

1. Core Hole Description Data

Job # 741-40-

Assigned project number for Rio Blanco Oil Shale Project by Wright Water Engineers, Inc.

Location

X = Coordinates east in feet, 7200 foot

Datum of the Colorado State Coordinate System

Y = Coordinates, north in feet, 7200 foot

Datum of the Colorado State Coordinate System

Z = Elevation in feet above sea of the core hole at ground surface

Date Drill Compl.-

The date when drilling was completed on the Core Hole.

Conv. to Monitor-

Date the Core Hole was converted to a Monitor Hole.

Aquifer 1:

Depth in feet to the top and bottom of the upper aquifer from ground surface.

Aquifer 2:

Depth in feet to the top and bottom of the lower aquifer from ground surface.

2. Sample Description Data

Date-

Date water sample was collected.

Depth-

Depth for Method 1: Total depth sample was collected during drilling

Depth for Method 2: See aquifer 1 or 2.

Depth for Method 3: The static water level of the hole when sampled.

Temp.-

Field temperature of sample (^{o}F)

Lab ID-

Designation number assigned by the analyzing laboratory.

RBOSP PROGRESS REPORT

Method

0. Drilling soap sample
1. Drilling program sample
2. Pumping test program sample
3. Monitoring program sample
3A. Monitoring program sample, not representative of aquifer conditions

Aquif. Loc.

U Sample from upper aquifer during drilling, pumping or monitoring
L Sample from lower aquifer during pumping test or monitoring
C Sample combination of upper and lower aquifer during drilling
A Sample from alluvial aquifer

3. Wet -- Wet Chemical Analysis

Values are in milligrams per liter, except for:

Gross Alpha-- picocuries per liter
Gross Beta -- picocuries per liter
pH -- standard pH values
Conductance-- micromhos per centimeter

Negative values indicate less than minimum detectable limit indicated

0.0 value - constituent not tested for

**** - not analyzed for using wet chemical analysis

4. Spectrographic - spectrographic analysis of 67 elements

All values are in milligrams per liter

0.0 means less than minimum detectable amount

99999.000 means major amount

***** is used in Water Quality Analysis Summary to indicate an element has not been analyzed above the minimum detectable limit

RBOSP PROGRESS REPORT

JOB#-741-40 OWNER-RIO BLANCO OIL SHALE PROJECT LOCATIONS: X- 162483.60 Y- 221691.80 Z- 7006.00
DATE DRILL COMPL-100174 DATE CONV TO MONITOR-111674 AQUIFER 1: 640.00- 820.00FT AQUIFER 2: 1380.00-1600.00FT

SAMPLES	1	2	3	4	5	6	7	8	9	10	11	12
DATE	92174	92774	93074	33175	33175	42775	42775	50975	50975	61175	61175	71375
DEPTH	1014.00	1553.00	1885.00	371.74	341.20	341.09	393.92	341.76	389.30	391.90	344.50	387.65
TEMP	83.0	80.0	82.0	52.7	52.7	55.4	55.4	55.4	65.4	55.4	56.3	59.0
LAB ID												
LAB NUM	3108	4308	4306	8779	8780	9804	9803	9924	9923	774	775	1242
METHOD	1	1	1	3	3	3	3	3	3	3	3	3
AQUIF.LOC.	U	C	C	L	U	U	L	U	L	L	U	L
WET												
ALUMINUM	-0.050	-0.100	-0.100	-0.100	-0.100	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AMMONIA	0.500	0.300	0.200	0.0	0.0	0.370	-0.100	0.400	0.120	0.300	0.600	0.600
ARSENIC	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010
BICARBONAT	715.000	510.000	1630.000	1025.000	870.000	925.000	935.000	880.000	1070.000	1010.000	730.000	1340.000
CADMIUM	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	0.020	0.010	-0.010	-0.010	-0.010
CALCIUM	80.000	80.000	10.000	98.000	170.000	175.000	62.000	260.000	98.000	45.000	190.000	15.000
CARBONATE	-0.100	-0.100	390.000	-0.100	-0.100	-0.100	54.000	-0.100	5.800	48.000	48.000	42.000
CHLORIDE	4.000	14.000	4.300	24.000	15.000	13.000	28.000	21.000	34.000	36.000	14.000	25.000
CHROMIUM	0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.050	-0.050	-0.010	-0.010	-0.010
COPPER	-0.100	-0.100	0.100	-0.010	-0.010	-0.010	0.020	-0.100	-0.100	-0.100	-0.100	-0.100
FLUORIDE	1.500	2.100	4.700	3.000	0.600	0.600	5.000	0.600	6.400	8.000	1.000	24.000
HYDROXIDE	-0.100	-0.100	-0.100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IRON	-0.050	0.900	-0.050	0.110	0.050	3.600	3.500	6.900	9.100	6.600	5.100	6.800
LEAD	-0.050	0.120	0.080	-0.010	-0.010	0.230	0.500	0.070	0.420	0.200	0.060	3.200
MAGNESIUM	93.000	36.000	2.700	94.000	105.000	110.000	105.000	110.000	79.000	83.000	100.000	35.000
MERCURY	0.0	0.0	0.0	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.002
NITRATE	-0.100	0.300	0.400	0.200	0.200	1.100	0.700	0.600	1.200	0.400	4.500	0.200
PHOSPHATE	0.100	4.700	4.300	-0.100	-0.100	-0.100	-0.100	-0.100	-0.100	-0.100	-0.100	-0.100
POTASSIUM	-1.000	20.000	7.500	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SELENIUM	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010
SIL DIOXID	35.000	17.000	12.000	32.000	58.000	57.000	25.000	54.000	23.000	21.000	52.000	14.000
SODIUM	185.000	240.000	930.000	410.000	365.000	330.000	440.000	280.000	380.000	410.000	350.000	600.000
SULFATE	360.000	450.000	-4.000	580.000	800.000	770.000	500.000	800.000	410.000	370.000	800.000	155.000
SULFIDE	-0.100	3.400	1.700	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ZINC	-0.500	0.0	0.0	0.100	0.100	0.040	0.500	-0.100	0.800	0.900	0.800	0.500
GROS ALPHA	2.000	5.000	12.000	0.0	0.0	0.0	0.300	0.0	2.200	5.700	6.500	3.700
GROSS BETA	0.0	1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HARDNESS	500.000	350.000	36.000	630.000	845.000	890.000	580.000	1110.000	570.000	450.000	890.000	180.000
PH	7.100	8.000	8.000	6.800	6.800	6.600	7.200	6.800	7.000	7.000	6.000	7.400
CONDUCTANC	1020.000	3700.000	3900.000	2038.000	2140.000	2470.000	2300.000	2460.000	1920.000	2300.000	2610.000	2399.000
DIS SOLIDS	1250.000	1080.000	2650.000	1740.000	1940.000	1910.000	1680.000	1960.000	1580.000	1520.000	1920.000	1570.000
MANGANESE	0.010	0.320	-0.050	0.190	0.110	0.050	0.090	0.020	0.080	0.060	0.050	0.050
ALKALINITY	0.0	0.0	0.0	840.000	715.000	760.000	809.000	720.000	884.700	324.000	639.000	1124.000
CYANIDE	0.0	0.0	0.0	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010
BORON	2.200	0.500	1.300	0.800	0.500	0.200	0.400	0.800	1.300	1.000	-0.010	1.000
BARIUM	0.0	0.0	0.0	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000
SILVER	0.0	0.0	0.0	0.020	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010
NICKEL	0.0	0.0	0.0	-0.010	-0.010	0.030	0.030	0.010	-0.010	0.040	0.040	0.050
LITHIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DOC	0.0	0.0	0.0	0.0	0.0	3.000	5.000	3.000	7.000	32.000	3.000	4.000
NITRITE-N	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BROMIDE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

REOSP PROJECTS REPORT

SAMPLES	1	2	3	4	5	6	7	8	9	10	11	12
C.O.D.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHENOLS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KJELDAHL N	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BERYLLIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MOLYBDENUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STRONTIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VANADIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ORTHO PHOS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AMMONIA-N	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DIS-ORG C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MBAS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT COLIF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FEC COLIF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SPECTROGRAPHIC												
ALUMINUM	0.100	0.010	0.100	0.100	0.050	0.500	0.100	0.500	0.100	0.010	0.010	0.010
ANTIMONY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARSENIC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BARIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BERYLIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BISMUTH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BORON	1.000	0.400	0.100	0.500	0.100	0.200	0.200	0.500	0.500	0.500	0.200	0.500
CADMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CALCIUM	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	5.000
CERIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CESIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CHROMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COBALT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COLUMBIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COPPER	0.0	0.010	0.050	0.010	0.005	0.0	0.0	0.010	0.010	0.001	0.001	0.001
DYSPROSIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ERBIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EUROPIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GADOLINIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GALLIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GERMANIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GOLD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HAFNIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HOLMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
INDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IRIDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IRON	0.010	0.500	0.0	0.100	0.100	0.100	0.100	0.020	0.010	0.010	0.020	0.020
LANTHANUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LEAD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.001	0.0	0.0	0.0
LITHIUM	0.100	0.0	0.0	0.0	0.100	0.0	0.0	0.001	0.010	0.0	0.001	0.050
LUTETIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.010	0.0	0.0
MAGNESIUM	99999.000	99999.000	5.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	2.000
MANGANESE	0.0	0.500	0.0	0.0	0.010	0.100	0.050	0.100	0.100	0.010	0.0	0.001
MERCURY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MOLYBDENUM	0.0	0.0	0.0	0.001	0.001	0.0	0.0	0.0	0.001	0.0	0.0	0.0
NEODYMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NICKEL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PALLADIUM	0.0	0.0	0.0	0.0	0.0	0.100	0.0	0.0	0.0	0.0	0.0	0.0
PLATINUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RBOSP PROGRESS REPORT

SAMPLES	1	2	3	4	5	6	7	8	9	10	11	12
POTASSIUM	0.100	5.000	5.000	2.000	2.000	0.0	0.100	2.000	2.000	1.000	0.100	2.000
PRASEODYMI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RADIUM	0.0	0.300	0.400	0.0	0.200	0.0	0.0	0.0	0.0	0.0	0.100	0.0
RHENIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RHODIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RUBIDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RUTHENIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SAMARIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SCANDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SELENIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SILICON	30.000	10.000	10.000	5.000	5.000	10.000	10.000	2.000	5.000	5.000	5.000	5.000
SILVER	0.0	0.0	0.0	0.001	0.000	0.0	0.0	0.001	0.0	0.0	0.0	0.0
SODIUM	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	5.000	5.000	10.000	5.000	99999.000
STRONTIUM	0.100	0.0	0.0	1.000	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.010
TANTALUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TERBIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THALLIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THORIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THULIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TIN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TITANIUM	0.0	0.0	0.0	0.010	0.010	0.0	0.0	0.0	0.0	0.0	0.0	0.010
TUNGSTEN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
URANIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VANADIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YTTERBIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YTTRIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ZINC	0.0	0.0	0.0	0.0	0.0	0.0	0.200	0.001	0.0	0.0	0.001	0.0
ZIRCONIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RBOSP PROGRESS REPORT

JOB#-741-40 OWNER-RIO BLANCO OIL SHALE PROJECT LOCATIONS: X- 162483.60 Y- 221691.80 Z- 7006.00
DATE DRILL COMPL-100174 DATE CONV TO MONITOR-111674 AQUIFER 1: 640.00- 820.00FT AQUIFER 2: 1380.00-1600.00FT

SAMPLES	13	14	15	16	17	18
DATE	71375	82875	82875	32976	82776	82776
DEPTH	341.05	340.67	388.51	339.36	339.62	398.71
TEMP	55.4	54.1	57.6	52.3	55.3	58.9
LAB ID						
LAB NUM	1243	2574	2575	7923	2140	2141
METHOD	3	3	3	3	3	3
AQUIF.LOC.	U	U	L	U	U	L
WET						
ALUMINUM	0.0	0.0	0.0	0.0	-0.100	0.200
AMMONIA	0.500	0.700	0.900	0.900	0.800	1.000
ARSENIC	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010
BICARBONAT	830.000	825.000	1060.000	760.000	785.000	740.000
CADMIUM	-0.010	-0.010	-0.010	0.020	0.020	-0.010
CALCIUM	130.000	64.000	15.000	25.000	175.000	65.000
CARBONATE	-0.100	-0.100	63.000	-0.100	-0.100	72.000
CHLORIDE	9.600	4.100	14.000	8.300	16.000	9.900
CHROMIUM	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010
COPPER	-0.100	-0.100	-0.100	-0.100	-0.100	-0.100
FLUORIDE	0.600	0.700	21.000	0.300	0.100	17.000
HYDROXIDE	0.0	0.0	0.0	0.0	0.0	0.0
IRON	8.100	16.000	4.500	3.600	-0.050	0.500
LEAD	0.500	1.000	0.200	0.200	0.040	0.040
MAGNESIUM	140.000	130.000	30.000	200.000	130.000	18.000
MERCURY	-0.002	-0.002	-0.002	-0.001	-0.001	-0.001
NITRATE	0.200	0.100	0.100	-0.100	6.300	0.200
PHOSPHATE	-0.100	-0.100	-0.100	-0.100	-0.100	-0.100
POTASSIUM	0.0	0.0	0.0	-1.000	5.000	6.000
SELENIUM	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010
SIL DIOXID	56.000	56.000	2.000	43.000	37.000	6.200
SODIUM	380.000	395.000	440.000	320.000	250.000	300.000
SULFATE	900.000	760.000	75.000	840.000	800.000	15.000
SULFIDE	0.0	0.0	0.0	1.000	1.600	-0.010
ZINC	0.100	0.200	0.900	4.000	-0.100	-0.100
GROS ALPHA	1.600	8.400	5.700	0.0	0.0	0.0
GROSS BETA	0.0	59.000	55.000	0.0	0.0	0.0
HARDNESS	900.000	690.000	160.000	0.0	0.0	0.0
PH	6.800	6.200	6.800	6.500	0.0	0.0
CONDUCTANC	2368.000	2300.000	1940.000	2210.000	2300.000	1360.000
DIS SOLIDS	2030.000	1830.000	1120.000	1860.000	1910.000	875.000
MANGANESE	0.050	-0.050	0.030	0.090	0.200	0.050
ALKALINITY	680.000	675.000	52.000	620.000	645.000	660.000
CYANIDE	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010
BORON	0.300	0.600	1.100	0.200	0.200	3.900
BARIUM	-1.000	-1.000	-1.000	0.0	-1.000	-1.000
SILVER	-0.010	-0.010	-0.010	0.0	0.0	0.0
NICKEL	0.050	0.020	0.040	0.0	0.010	0.010
LITHIUM	0.0	0.0	0.0	-0.100	-0.100	0.200
DOC	14.000	9.000	12.000	5.700	15.000	12.000
NITRITE-N	0.0	0.0	0.0	-0.020	0.0	0.0
BROMIDE	0.0	0.0	0.0	-0.020	-0.100	-0.100

RBOSP PROGRESS REPORT

SAMPLES	13	14	15	16	17	18
C.O.D.	0.0	0.0	0.0	145.000	15.000	54.000
PHENOLS	0.0	0.0	0.0	-0.001	-0.001	1.000
KJELDAHL N	0.0	0.0	0.0	0.0	0.0	0.0
BERYLLIUM	0.0	0.0	0.0	0.0	-0.010	-0.100
MOLYBDENUM	0.0	0.0	0.0	0.0	-0.050	-0.050
STRONTIUM	0.0	0.0	0.0	0.0	6.000	1.000
VANADIUM	0.0	0.0	0.0	0.0	-0.050	-0.050
ORTHO PHOS	0.0	0.0	0.0	0.0	0.0	0.0
AMMONIA-N	0.0	0.0	0.0	0.0	0.0	0.0
DIS-ORG C	0.0	0.0	0.0	0.0	0.0	0.0
MBAS	0.0	0.0	0.0	0.0	0.0	0.0
TOT COLIF	0.0	0.0	0.0	0.0	0.0	0.0
FEC COLIF	0.0	0.0	0.0	0.0	0.0	0.0
SPECTROGRAPHIC						
ALUMINUM	0.100	0.050	0.100	0.020	0.010	0.100
ANTIMONY	0.0	0.0	0.0	0.0	0.0	0.0
ARSENIC	0.0	0.0	0.0	0.0	0.0	0.0
BARIUM	0.0	0.0	0.001	0.0	0.0	0.010
BERYLIUM	0.0	0.0	0.0	0.0	0.0	0.0
BISMUTH	0.0	0.0	0.0	0.0	0.0	0.0
BORON	0.200	0.200	0.500	0.200	0.500	0.500
CADMIUM	0.0	0.0	0.0	0.0	0.0	0.0
CALCIUM	99999.000	10.000	99999.000	99999.000	99999.000	10.000
CERIUM	0.0	0.0	0.0	0.0	0.0	0.0
CESIUM	0.0	0.0	0.0	0.0	0.0	0.0
CHROMIUM	0.0	0.0	0.0	0.0	0.0	0.0
COBALT	0.0	0.0	0.0	0.0	0.0	0.0
COLUMBIUM	0.0	0.0	0.0	0.0	0.0	0.0
COPPER	0.005	0.010	0.010	0.010	0.001	0.001
DYSPROSIUM	0.0	0.0	0.0	0.0	0.0	0.0
ERBIUM	0.0	0.0	0.0	0.0	0.0	0.0
EUROPIUM	0.0	0.0	0.0	0.0	0.0	0.0
GADOLINIUM	0.0	0.0	0.0	0.0	0.0	0.0
GALLIUM	0.0	0.0	0.0	0.0	0.0	0.0
GERMANIUM	0.0	0.0	0.0	0.0	0.0	0.0
GOLD	0.0	0.0	0.0	0.0	0.0	0.0
HAFNIUM	0.0	0.0	0.0	0.0	0.0	0.0
HOLMIUM	0.0	0.0	0.0	0.0	0.0	0.0
INDIUM	0.0	0.0	0.0	0.0	0.0	0.0
IRIDIUM	0.0	0.0	0.0	0.0	0.0	0.0
IRON	0.050	0.050	0.020	1.000	0.500	0.050
LANTHANUM	0.0	0.0	0.0	0.0	0.0	0.0
LEAD	0.0	0.0	0.0	0.050	0.0	0.001
LITHIUM	0.010	0.010	0.001	0.0	0.0	0.020
LUTETIUM	0.0	0.0	0.0	0.0	0.0	0.0
MAGNESIUM	99999.000	5.000	99999.000	99999.000	99999.000	10.000
MANGANESE	0.010	0.010	0.005	0.010	0.100	0.100
MERCURY	0.0	0.0	0.0	0.0	0.0	0.0
MOLYBDENUM	0.001	0.0	0.0	0.020	0.001	0.010
NEODYMIUM	0.0	0.0	0.0	0.0	0.0	0.0
NICKEL	0.0	0.0	0.0	0.001	0.0	0.0
OSMIUM	0.0	0.0	0.0	0.0	0.0	0.0
PALLADIUM	0.0	0.0	0.0	0.0	0.0	0.0
PLATINUM	0.0	0.0	0.0	0.0	0.0	0.0

RBOSP PROGRESS REPORT

SAMPLES	13	14	15	16	17	18
POTASSIUM	1.000	1.000	0.100	0.010	0.010	0.100
PRASEODYMI	0.0	0.0	0.0	0.0	0.0	0.0
RADIUM	0.0	0.0	0.0	0.0	0.0	0.0
RHENIUM	0.0	0.0	0.0	0.0	0.0	0.0
RHODIUM	0.0	0.0	0.0	0.0	0.0	0.0
RUBIDIUM	0.0	0.0	0.0	0.0	0.0	0.0
RUTHENIUM	0.0	0.0	0.0	0.0	0.0	0.0
SAMARIUM	0.0	0.0	0.0	0.0	0.0	0.0
SCANDIUM	0.0	0.0	0.0	0.0	0.0	0.0
SELENIUM	0.0	0.0	0.0	0.0	0.0	0.0
SILICON	2.000	2.000	5.000	5.000	2.000	2.000
SILVER	0.0	0.0	0.0	0.0	0.0	0.001
SODIUM	99999.000	10.000	5.000	10.000	5.000	99999.000
STRONTIUM	0.100	0.100	0.100	0.100	0.200	0.010
TANTALUM	0.0	0.0	0.0	0.0	0.0	0.0
TERBIUM	0.0	0.0	0.0	0.0	0.0	0.0
THALLIUM	0.0	0.0	0.0	0.0	0.0	0.0
THORIUM	0.0	0.0	0.0	0.0	0.0	0.0
THULIUM	0.0	0.0	0.0	0.0	0.0	0.0
TIN	0.0	0.0	0.0	0.0	0.0	0.0
TITANIUM	0.010	0.0	0.010	0.001	0.001	0.001
TUNGSTEN	0.0	0.0	0.0	0.0	0.0	0.0
URANIUM	0.0	0.0	0.0	0.0	0.0	0.0
VANADIUM	0.0	0.0	0.0	0.0	0.0	0.0
YTTERBIUM	0.0	0.0	0.0	0.0	0.0	0.0
YTTRIUM	0.0	0.0	0.0	0.0	0.0	0.0
ZINC	0.0	0.0	0.001	0.001	0.0	0.0
ZIRCONIUM	0.0	0.0	0.0	0.0	0.0	0.0

RBOCP TROGRESS REPORT

JOB#-741-40 OWNER-RIO BLANCO OIL SHALE PROJECT LOCATIONS: X- 156524.43 Y- 238026.20 Z- 7175.00
DATE DRILL COMPL-110674 DATE CONV TO MONITOR-121674 AQUIFER 1: 840.00- 960.00FT AQUIFER 2: 1720.00-1990.00FT

SAMPLES	1	2	3	4	5	6	7	8	9	10	11	12
DATE	110374	110374	110574	110674	32975	32975	42675	42675	50875	50875	60975	60975
DEPTH	970.00	1200.00	1770.00	2207.00	490.82	546.55	492.36	555.71	492.74	560.20	495.00	564.00
TEMP	59.0	59.0	65.0	72.0	54.9	54.5	55.4	57.2	56.3	56.8	56.8	57.0
LAB ID												
LAB NUM	5066	5067	4574	5068	9022	9021	168	243	169	167	891	890
METHOD	1	1	1	1	3	3A	3	3A	3	3A	3	3A
AQUIF.LOC.	U	U	C	C	U	L	U	L	U	L	U	L
WET												
ALUMINUM	0.100	-0.100	0.0	0.100	-0.100	-0.100	0.0	0.0	0.0	0.0	0.0	0.0
AMMONIA	1.800	0.830	0.0	0.570	-0.100	-0.100	-0.100	0.100	-0.100	-0.010	0.200	0.300
ARSENIC	-0.050	-0.050	0.0	-0.050	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010
BICARBONAT	420.000	320.000	1320.000	1510.000	850.000	610.000	900.000	540.000	900.000	530.000	800.000	500.000
CADMIUM	-0.010	-0.010	0.0	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010
CALCIUM	44.000	28.000	19.000	20.000	200.000	72.000	210.000	41.000	220.000	89.000	130.000	39.000
CARBONATE	-0.100	18.000	48.000	42.000	-0.100	-0.100	-0.100	-0.100	-0.100	29.000	19.000	60.000
CHLORIDE	2.800	4.200	22.000	13.000	9.700	38.000	14.000	44.000	21.000	43.000	27.000	48.000
CHROMIUM	-0.050	-0.050	0.0	-0.050	-0.010	-0.010	-0.050	-0.050	-0.050	-0.050	-0.010	-0.010
COPPER	-0.100	-0.100	0.0	-0.100	-0.010	-0.010	-0.100	-0.100	-0.100	-0.010	-0.100	-0.100
FLUORIDE	6.600	8.800	5.200	10.300	0.400	0.600	0.200	0.500	0.200	0.600	0.200	1.100
HYDROXIDE	-0.100	-0.100	0.0	-0.100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IRON	0.170	-0.050	0.170	0.100	-0.050	-0.050	7.400	4.300	6.400	6.000	14.000	5.100
LEAD	0.050	-0.050	0.0	-0.050	0.020	0.030	0.750	0.400	0.400	0.750	0.400	0.700
MAGNESIUM	36.000	27.000	19.000	7.800	94.000	92.000	89.000	99.000	90.000	67.000	130.000	93.000
MERCURY	-0.010	-0.010	0.0	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010
NITRATE	0.500	0.400	1.300	-0.100	0.300	0.300	0.200	-0.100	-0.100	0.100	0.500	1.500
PHOSPHATE	0.100	0.300	0.0	0.200	-0.100	-0.100	-0.100	-0.100	-0.100	0.100	-0.100	-0.100
POTASSIUM	-1.000	-1.000	0.0	-1.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SELENIUM	-0.010	-0.010	0.0	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010
SIL DIOXID	21.000	17.000	15.000	17.000	43.000	32.000	45.000	27.000	45.000	25.000	42.000	19.000
SODIUM	260.000	240.000	490.000	660.000	210.000	255.000	270.000	290.000	260.000	310.000	260.000	340.000
SULFATE	420.000	350.000	220.000	180.000	610.000	540.000	630.000	570.000	600.000	550.000	600.000	580.000
SULFIDE	3.700	4.100	0.0	2.400	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ZINC	-0.500	-0.500	0.0	-0.500	0.150	0.040	4.400	0.600	1.000	10.000	0.700	0.400
GROS ALPHA	3.500	5.400	0.0	3.500	0.0	0.0	2.200	9.300	5.600	1.300	3.400	1.500
GROSS BETA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HARDNESS	260.000	180.000	130.000	82.000	890.000	555.000	900.000	510.000	910.000	500.000	870.000	480.000
PH	7.000	8.500	7.600	8.000	6.400	6.400	6.800	6.800	7.100	6.800	6.600	6.800
CONDUCTANC	1050.000	1120.000	3078.000	4987.000	2050.000	1730.000	2240.000	1730.000	3120.000	2640.000	2000.000	1730.000
DIS SOLIDS	1120.000	790.000	1840.000	2050.000	1580.000	1330.000	1710.000	1360.000	1680.000	1380.000	1600.000	1430.000
MANGANESE	0.0	0.0	-0.050	0.0	0.420	0.110	0.300	0.050	0.300	0.090	0.200	0.080
ALKALINITY	0.0	0.0	1120.000	0.0	700.000	500.000	740.000	440.000	740.000	454.000	665.000	459.000
CYANIDE	0.0	0.0	0.0	0.0	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010
BORON	0.0	0.0	0.0	0.0	-0.100	-0.010	-0.100	0.400	0.200	0.200	0.040	0.040
BARIUM	0.0	0.0	0.0	0.0	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000
SILVER	0.0	0.0	0.0	0.0	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	0.020	-0.010
NICKEL	0.0	0.0	0.0	0.0	0.030	0.030	0.030	0.030	0.040	0.030	0.030	0.020
LITHIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BOC	0.0	0.0	0.0	0.0	0.0	0.0	12.000	15.000	11.000	37.000	6.000	11.000
NITRITE-N	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BROMIDE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RBOCP PROGRAM

SAMPLES	1	2	3	4	5	6	7	8	9	10	11	12
C.O.D.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHENOLS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KJELDAHL N	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BERYLLIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MOLYBDENUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STRONTIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VANADIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ORTHO PHOS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AMMONIA-N	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DIS-ORG C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MBAS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT COLIF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FEC COLIF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SPECTROGRAPHIC												
ALUMINUM	0.100	0.100	0.0	0.100	0.010	0.100	0.200	0.010	0.500	0.100	0.050	0.050
ANTIMONY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARSENIC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BARIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BERYLIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BISMUTH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BORON	0.100	0.500	0.0	5.000	0.100	0.200	0.500	0.500	0.500	0.200	0.200	0.500
CADMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CALCIUM	99999.000	99999.000	0.0	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000
CERIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CESIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CHROMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COBALT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COLUMBIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COPPER	0.0	0.0	0.0	0.0	0.0	0.010	0.001	0.005	0.010	0.001	0.010	0.010
DYSPROSIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ERBIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EUROPIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GADOLINIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GALLIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GERMANIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GOLD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HAFNIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HOLMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
INDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IRIDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IRON	0.100	0.100	0.0	0.100	0.020	0.020	0.020	0.050	0.050	0.020	0.050	0.020
LANTHANUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LEAD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.001	0.0	0.0	0.0
LITHIUM	0.0	0.0	0.0	0.0	0.010	0.010	0.001	0.001	0.0	0.0	0.001	0.010
LUTETIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAGNESIUM	99999.000	99999.000	0.0	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000	99999.000
MANGANESE	0.0	0.050	0.0	0.050	0.010	0.010	0.010	0.001	0.050	0.001	0.001	0.005
MERCURY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MOLYBDENUM	0.0	0.0	0.0	0.001	0.0	0.001	0.0	0.0	0.0	0.001	0.0	0.001
NEODYMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NICKEL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PALLADIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PLATINUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

SAMPLES	1	2	3	4	5	6	7	8	9	10	11	12
POTASSIUM	0.500	1.000	0.0	1.000	0.100	0.100	2.000	0.100	1.000	1.000	0.100	1.000
PRASEODYMI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RADIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.200	0.100	0.0	0.0	0.0
RHENIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RHODIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RUBIDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RUTHENIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SAMARIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SCANDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SELENIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SILICON	20.000	20.000	0.0	20.000	10.000	10.000	5.000	5.000	5.000	5.000	5.000	5.000
SILVER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SODIUM	99999.000	99999.000	0.0	99999.000	99999.000	99999.000	10.000	5.000	10.000	5.000	5.000	10.000
STRONTIUM	0.0	0.0	0.0	0.0	0.100	0.100	0.100	0.100	0.0	0.100	0.100	0.100
TANTALUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TERBIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THALLIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THORIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THULIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TIN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TITANIUM	0.0	0.0	0.0	0.010	0.0	0.0	0.001	0.0	0.001	0.0	0.001	0.001
TUNGSTEN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
URANIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VANADIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YTTERBIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YTTRIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ZINC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ZIRCONIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RBCSP PROGRESS REPORT

NNN-JJJ-0000

JOB#-741-40 OWNER-RIO BLANCO OIL SHALE PROJECT LOCATIONS: X- 156524.43 Y- 238026.20 Z- 7175.00
DATE DRILL COMPL-110674 DATE CONV TO MONITOR-121674 AQUIFER 1: 840.00- 960.00FT AQUIFER 2: 1720.00-1990.00FT

SAMPLES	13	14	15	16	17	18	19
DATE	71775	71775	71775	82975	82975	82876	82876
DEPTH	560.84	492.77	560.84	492.19	561.53	568.28	491.60
TEMP	61.7	58.1	57.6	59.0	60.2	61.0	57.2
LAB ID							
LAB NUM	1349	1350	1348	2590	2758	2137	2136
METHOD	3	3	3A	3	3	3	3
AQUIF.LOC.	L	U	L	U	L	L	U
WET							
ALUMINUM	0.0	0.0	0.0	0.0	0.0	0.100	0.100
AMMONIA	0.300	0.400	0.300	0.700	1.100	0.500	0.800
ARSENIC	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	0.0
BICARBONAT	2980.000	780.000	490.000	715.000	1880.000	460.000	690.000
CADMIUM	-0.010	-0.010	-0.010	-0.010	-0.010	0.020	0.020
CALCIUM	11.000	80.000	20.000	-0.010	14.000	42.000	130.000
CARBONATE	130.000	-0.100	30.000	-0.100	100.000	36.000	-0.100
CHLORIDE	96.000	16.000	42.000	8.100	15.000	9.900	9.900
CHROMIUM	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	0.020
COPPER	0.200	-0.100	-0.100	-0.100	-0.100	-0.100	-0.100
FLUORIDE	26.000	0.400	0.600	0.400	22.000	0.200	0.200
HYDROXIDE	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IRON	15.500	18.000	4.800	17.000	7.000	-0.050	0.900
LEAD	20.000	0.200	1.200	0.400	0.900	0.030	0.090
MAGNESIUM	45.000	130.000	93.000	82.000	43.000	140.000	135.000
MERCURY	-0.002	-0.002	-0.002	-0.002	0.002	-0.001	-0.001
NITRATE	0.200	0.100	0.800	0.800	0.600	-0.100	-0.100
PHOSPHATE	-0.100	-0.100	-0.100	-0.100	-0.100	-0.100	0.100
POTASSIUM	0.0	0.0	0.0	0.0	0.0	7.000	6.000
SELENIUM	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010
SIL DIOXID	14.000	49.000	16.000	39.000	14.000	10.000	20.000
SODIUM	1320.000	360.000	280.000	260.000	820.000	200.000	200.000
SULFATE	240.000	780.000	500.000	660.000	185.000	740.000	750.000
SULFIDE	0.0	0.0	0.0	0.0	0.0	1.600	1.000
ZINC	5.500	0.600	1.400	0.200	0.500	-0.100	-0.100
GROS ALPHA	6.300	0.0	1.400	11.000	6.500	0.0	0.0
GROSS BETA	47.000	0.0	11.000	49.000	52.000	0.0	0.0
HARDNESS	210.000	730.000	430.000	805.000	210.000	0.0	0.0
PH	7.400	7.000	7.300	6.800	7.600	0.0	0.0
CONDUCTANC	2975.000	1922.000	1701.000	2210.000	3600.000	1920.000	2060.000
DIS SOLIDS	3360.000	1820.000	1230.000	1600.000	2150.000	1480.000	1690.000
MANGANESE	0.500	0.200	0.100	0.200	0.090	0.200	0.400
ALKALINITY	2540.000	640.000	424.000	585.000	1623.000	405.000	565.000
CYANIDE	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010
BORON	0.400	0.200	0.400	0.200	0.500	2.500	0.200
BARIUM	-1.000	-1.000	-1.000	-1.000	-1.000	1.000	-1.000
SILVER	-0.010	-0.010	-0.010	-0.010	-0.010	0.0	0.0
NICKEL	0.060	0.040	0.030	0.040	0.020	0.010	0.010
LITHIUM	0.0	0.0	0.0	0.0	0.0	0.200	-0.100
DOC	3.500	18.000	17.000	12.000	10.000	11.000	8.000
NITRITE-N	0.0	0.0	0.0	0.0	0.0	-0.100	-0.100
BROMIDE	0.0	0.0	0.0	0.0	0.0	-0.100	-0.100

PROGRESS REPORT

SAMPLES	13	14	15	16	17	18	19
C.O.D.	0.0	0.0	0.0	0.0	0.0	43.000	31.000
PHENOLS	0.0	0.0	0.0	0.0	0.0	-0.001	-0.001
KJELDAHL N	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BERYLLIUM	0.0	0.0	0.0	0.0	0.0	-0.010	-0.010
MOLYBDENUM	0.0	0.0	0.0	0.0	0.0	-0.050	-0.050
STRONTIUM	0.0	0.0	0.0	0.0	0.0	5.000	7.000
VANADIUM	0.0	0.0	0.0	0.0	0.0	-0.050	-0.050
ORTHO PHOS	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AMMONIA-N	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DIS-ORG C	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MBAS	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT COLIF	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FEC COLIF	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SPECTROGRAPHIC							
ALUMINUM	0.100	0.010	0.100	0.100	0.050	0.100	0.100
ANTIMONY	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARSENIC	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BARIUM	0.001	0.0	0.0	0.0	0.001	0.0	0.0
BERYLIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BISMUTH	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BORON	0.500	0.500	0.500	0.500	0.200	0.500	0.500
CADMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CALCIUM	99999.000	10.000	99999.000	99999.000	99999.000	99999.000	99999.000
CERIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CESIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CHROMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COBALT	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COLUMBIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COPPER	0.010	0.001	0.005	0.020	0.001	0.001	0.001
DYSPROSIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ERBIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EUROPIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GADOLINIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GALLIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GERMANIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GOLD	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HAFNIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HOLMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0
INDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IRIDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IRON	0.010	0.020	0.020	0.020	0.010	0.100	2.000
LANTHANUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LEAD	0.0	0.0	0.0	0.001	0.0	0.0	0.0
LITHIUM	0.010	0.001	0.010	0.010	0.001	0.020	0.0
LUTETIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAGNESIUM	99999.000	10.000	99999.000	99999.000	99999.000	99999.000	99999.000
MANGANESE	0.001	0.001	0.001	0.010	0.010	0.0	0.010
MERCURY	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MOLYBDENUM	0.0	0.0	0.001	0.001	0.0	0.001	0.001
NEODYMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NICKEL	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSMIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PALLADIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PLATINUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RECEIVED PROGRESS REPORT

SAMPLES	13	14	15	16	17	18	19
POTASSIUM	1.000	1.000	1.000	1.000	0.100	0.100	0.100
PRASEODYMI	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RADIUM	0.0	0.0	0.300	0.0	0.100	0.0	0.0
RHENIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RHODIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RUBIDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RUTHENIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SAMARIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SCANDIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SELENIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SILICON	2.000	5.000	5.000	2.000	2.000	5.000	5.000
SILVER	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SODIUM	10.000	99999.000	10.000	10.000	5.000	10.000	5.000
STRONTIUM	0.100	0.100	0.100	0.100	0.100	0.100	0.100
TANTALUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TERBIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THALLIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THORIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THULIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TIN	0.0	0.0	0.0	0.001	0.0	0.0	0.0
TITANIUM	0.0	0.001	0.0	0.001	0.001	0.0	0.001
TUNGSTEN	0.0	0.0	0.0	0.0	0.0	0.0	0.0
URANIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VANADIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YTTERBIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YTTRIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ZINC	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ZIRCONIUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0

FROM MICROFILMS METCH

WATER QUALITY ANALYSIS SUMMARY

SAMPLE ITEM RANGE AND AVERAGE

ITEM	LOWER AQUIFER LOW	LOWER AQUIFER HIGH	LOWER AQUIFER AVERAGE	LOWER AQUIFER # ITEMS AVERAGED	LOWER AQUIFER STD DEV.	UPPER AQUIFER LOW	UPPER AQUIFER HIGH	UPPER AQUIFER AVERAGE	UPPER AQUIFER # ITEMS AVERAGED	UPPER AQUIFER STD DEV.
WET										
ALUMINUM	-0.010	1.600	0.121	47	0.272	-0.010	2.200	0.176	46	0.387
AMMONIA	-0.010	9.600	0.653	172	0.947	-0.100	10.600	0.618	187	1.047
ARSENIC	-0.010	0.050	0.001	192	0.005	-0.010	0.200	0.003	198	0.018
BICARBONAT	-0.100	11800.000	1042.439	207	1204.645	-0.100	2760.000	604.606	226	485.724
CADMIUM	-0.001	0.030	0.002	193	0.005	-0.001	0.100	0.002	182	0.009
CALCIUM	0.800	515.000	35.885	207	69.743	-0.010	780.000	63.654	226	68.821
CARBONATE	-0.010	3160.000	94.680	207	248.912	-0.010	1190.000	33.395	225	93.509
CHLORIDE	-1.000	205.000	33.921	207	38.773	-1.000	240.000	23.774	226	31.371
CHROMIUM	-0.010	-0.050	0.002	188	0.007	-0.010	0.500	0.007	183	0.041
COPPER	-0.010	0.300	0.016	193	0.046	-0.010	0.800	0.024	182	0.096
FLUORIDE	0.030	120.000	13.682	208	19.727	0.060	80.000	3.906	226	10.120
HYDROXIDE	-0.100	890.000	221.250	8	409.684	-0.100	380.000	9.268	41	59.346
IRON	-0.050	33.000	2.842	207	4.402	0.005	18.000	3.803	210	4.614
LEAD	0.002	26.000	0.613	193	2.396	0.002	3.800	0.339	182	0.531
MAGNESIUM	-1.000	140.000	36.349	207	31.092	-0.100	200.000	53.279	225	33.300
MERCURY	-0.001	-0.010	0.000	189	0.000	-0.001	0.045	0.000	185	0.003
NITRATE	-0.010	55.000	0.696	207	3.960	-0.010	7.000	0.523	226	0.940
PHOSPHATE	-0.010	2.400	0.048	194	0.207	-0.010	9.200	0.163	185	0.895
POTASSIUM	-1.000	84.000	6.515	27	16.905	-0.100	93.000	8.835	62	20.432
SELENIUM	-0.001	-0.100	0.0	193	0.0	-0.001	-0.100	0.000	199	0.001
SIL DIOXID	-0.100	60.000	11.405	207	9.966	-0.100	58.000	25.610	226	14.269
SODIUM	86.000	5290.000	512.807	207	542.042	32.000	1170.000	271.641	226	211.380
SULFATE	3.500	740.000	210.717	207	175.211	-4.000	900.000	336.580	226	170.267
SULFIDE	-0.010	2.400	0.664	25	0.703	0.030	40.000	2.828	40	7.280
ZINC	-0.001	68.000	1.233	193	6.031	-0.010	15.000	0.691	173	1.472
GROS ALPHA	0.100	86.000	6.359	135	9.835	0.200	29.000	5.081	117	4.881
GROSS BETA	3.000	830.000	53.100	50	123.148	2.000	73.000	21.613	31	17.890
HARDNESS	20.000	1260.000	245.443	185	213.795	16.000	1870.000	379.458	205	237.825
PH	6.000	12.200	7.373	205	0.806	6.000	10.200	7.044	226	0.656
CONDUCTANC	760.000	15800.000	2191.531	205	1873.335	675.000	6200.000	1527.262	225	768.910
DIS SOLIDS	430.000	12200.000	1507.597	206	1235.199	425.000	3140.000	1139.318	226	504.789
MANGANESE	-0.010	0.800	0.073	201	0.106	-0.010	1.000	0.140	198	0.172
ALKALINITY	-0.100	10480.000	896.067	202	1071.363	-0.100	2390.000	513.837	184	462.706
CYANIDE	-0.010	0.800	0.005	187	0.059	-0.010	0.100	0.001	157	0.010
BORON	-0.010	25.000	1.716	190	3.198	-0.010	4.800	0.672	169	0.974
BARIUM	-0.100	1.000	0.006	168	0.077	-0.100	-1.000	0.0	137	0.0
SILVER	-0.001	0.110	0.003	166	0.015	-0.001	0.100	0.007	137	0.019
NICKEL	-0.001	0.100	0.023	166	0.019	-0.001	0.200	0.027	137	0.028
LITHIUM	-0.100	0.200	0.050	22	0.080	-0.100	-0.500	0.009	23	0.029
DOC	1.000	73.000	10.612	144	8.088	-1.000	50.000	9.861	135	7.228
NITRITE-N	-0.020	-0.100	0.0	21	0.0	-0.020	-0.020	0.0	21	0.0
BROMIDE	-0.020	0.400	0.030	22	0.089	-0.020	0.500	0.083	21	0.142
C.O.D.	1.300	92.000	28.505	22	23.209	0.900	400.000	82.671	21	100.460
PHENOLS	-0.001	1.000	0.045	22	0.213	-0.001	-0.001	0.0	21	0.0
KJELDHL N	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
BERYLLIUM	-0.010	-0.100	0.0	2	0.0	**********	0.0	0.0	0	0.0
MOLYBDENUM	-0.050	-0.050	0.0	2	0.0	**********	0.0	0.0	0	0.0
STRONTIUM	1.000	5.000	3.000	2	2.828	**********	0.0	0.0	0	0.0
VANADIUM	-0.050	-0.050	0.0	2	0.0	**********	0.0	0.0	0	0.0

REBOP PROGRESS REPORT

NN-0000-3-JZ-

SAMPLE ITEM RANGE AND AVERAGE

	LOWER AQUIFER					UPPER AQUIFER				
ITEM	LOW	HIGH	AVERAGE	# ITEMS AVERAGED	STD DEV.	LOW	HIGH	AVERAGE	# ITEMS AVERAGED	STD DEV.
ORTHO PHOS	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
AMMONIA-N	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
DIS-ORG C	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
MBAS	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
TOT COLIF	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
FEC COLIF	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
SPECTROGRAPHIC										
ALUMINUM	0.001	5.000	0.125	196	0.390	0.001	1.000	0.141	218	0.204
ANTIMONY	0.200	0.200	0.200	1	0.0	**********	0.0	0.0	0	0.0
ARSENIC	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
BARIUM	0.001	0.100	0.016	28	0.032	0.001	0.050	0.006	26	0.010
BERYLIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
BISMUTH	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
BORON	0.050	99999.000	0.437	195	0.622	-0.020	5.000	0.355	218	0.412
CADMIUM	99999.000	99999.000	0.0	0	0.0	99999.000	99999.000	0.0	0	0.0
CALCIUM	0.100	99999.000	6.836	36	4.341	1.000	99999.000	7.158	19	3.976
CERIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
CESIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
CHROMIUM	0.001	0.010	0.005	2	0.006	0.000	0.050	0.010	13	0.013
COBOLT	**********	0.0	0.0	0	0.0	0.001	0.001	0.001	1	0.0
COLUMBIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
COPPER	0.001	0.100	0.007	172	0.010	0.000	0.050	0.008	179	0.010
DYSPROSIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
ERBIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
EUROPIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
GADOLINIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
GALLIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
GERMANIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
GOLD	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
HAFNIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
HOLMIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
INDIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
IRIDIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
IRON	0.005	5.000	0.112	196	0.510	0.010	1.000	0.102	215	0.177
LANTHANUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
LEAD	0.000	0.500	0.029	39	0.084	0.001	0.500	0.034	52	0.080
LITHIUM	0.001	5.000	0.049	144	0.416	0.001	0.500	0.026	144	0.058
LUTETIUM	0.010	0.010	0.010	1	0.0	0.001	0.010	0.005	2	0.006
MAGNESIUM	0.100	99999.000	3.967	36	3.098	0.100	99999.000	6.277	22	4.054
MANGANESE	0.001	0.200	0.016	156	0.031	0.001	1.000	0.028	162	0.084
MERCURY	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
MOLYBDENUM	0.001	0.100	0.008	97	0.015	0.001	0.500	0.015	111	0.067
NEODYMIUM	0.090	0.090	0.090	1	0.0	**********	0.0	0.0	0	0.0
NICKEL	0.001	0.001	0.001	1	0.0	0.001	0.010	0.005	5	0.005
OSMIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
PALLADIUM	**********	0.0	0.0	0	0.0	0.100	0.100	0.100	1	0.0
PLATINUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
POTASSIUM	0.010	99999.000	1.207	187	1.496	0.010	99999.000	1.016	199	1.446
PRASEODYMI	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
RADIUM	0.090	2.100	0.416	43	0.386	0.100	0.800	0.194	31	0.150

RBOSP PROGRAM

WATER QUALITY ANALYSIS SUMMARY

SAMPLE ITEM RANGE AND AVERAGE

	LOWER AQUIFER					UPPER AQUIFER				
ITEM	LOW	HIGH	AVERAGE	# ITEMS AVERAGED	STD DEV.	LOW	HIGH	AVERAGE	# ITEMS AVERAGED	STD DEV.
RHENIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
RHODIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
RUBIDIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
RUTHENIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
SAMARIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
SCANDIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
SELENIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
SILICON	-0.500	99999.000	5.533	195	3.841	1.000	50.000	9.234	218	8.435
SILVER	0.000	0.001	0.001	14	0.000	0.000	0.001	0.000	19	0.000
SODIUM	0.100	99999.000	7.490	92	2.716	2.000	99999.000	7.385	104	2.897
STRONTIUM	0.001	99999.000	0.113	178	0.124	0.001	1.000	0.131	183	0.121
TANTALUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
TERBIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
THALLIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
THORIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
THULIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
TIN	0.000	0.001	0.001	2	0.001	0.001	0.001	0.001	1	0.0
TITANIUM	0.001	0.050	0.004	80	0.006	0.001	0.150	0.010	116	0.023
TUNGSTEN	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
URANIUM	-1.500	-1.500	0.0	1	0.0	**********	0.0	0.0	0	0.0
VANADIUM	**********	0.0	0.0	0	0.0	0.001	0.100	0.027	16	0.027
YTTERBIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
YTTRIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0
ZINC	0.001	0.500	0.032	42	0.110	0.001	0.500	0.026	51	0.077
ZIRCONIUM	**********	0.0	0.0	0	0.0	**********	0.0	0.0	0	0.0

SAMPLES IN AQUIFER = 208

SAMPLES IN AQUIFER = 226

REPRODUCIBILITY OF THE ORIGINAL PAGE IS POOR

NNN-J23-0000

TABLE 1.1-19
UPPER AQUIFER

WATER LEVEL

October, 1975 thru August, 1976

Below Ground Surface (ft.)

	9 Oct.	20 Nov.	12 Dec.	28 Jan.	17 Feb.	29 Mar.	14 April	21 May	23 June	30 July	28 Aug.	Sept.
AM 2A	389.45	387.63	386.41	385.17	384.34	383.19	382.50	381.85	--	379.40	379.09	
AM 3	33.57	33.45	33.11	33.23	33.04	32.79	31.60	30.04	28.72	29.17	30.06	
CE 702	52.40	52.30	52.39	52.64	52.65	52.80	52.66	53.02	54.50	53.38	53.70	
CE 707	259.79	258.76	258.11	257.25	256.64	242.22	250.32	250.60	250.97	252.03	252.00	
CE 708	48.87	50.60	49.86	51.78	51.80	51.30	47.72	44.81	46.43	44.30	46.91	
CE 709	39.84	37.02	36.14	35.90	35.69	35.50	34.88	35.00	34.48	33.90	38.84	
G-S 1	244.68	245.27	245.59	246.19	246.53	246.28	244.53	243.26	242.57	241.92	242.10	
G-S 2-3	103.49	102.75	102.35	102.25	101.97	100.87	100.28	99.86	99.26	99.06	99.26	
G-S 4-5	75.05	74.77	74.29	74.36	74.01	73.48	72.98	72.86	73.33	72.42	72.47	
G-S 6	55.62	55.54	55.42	55.50	55.45	55.27	54.95	55.22	55.10	55.20	55.61	
G-S 9	311.43	312.69	316.33	319.29	319.95	321.42	320.94	317.03	316.45	317.23	319.63	
G-S 10	340.35	340.11	--	339.75	339.60	339.36	339.14	339.48	339.50	339.37	339.62	
G-S 11	460.35	459.67	459.00	458.76	458.40	457.72	456.95	456.42	455.46	454.99	455.35	
G-S 12	388.30	387.60	386.97	386.55	386.24	385.41	384.67	382.79	382.83	381.86	382.91	
G-S 13	382.62	382.19	381.68	381.72	381.45	381.04	380.97	380.41	380.11	380.12	378.47	
G-S 15	274.73			273.56	273.41	272.99	272.83	272.69	274.76	272.58	272.49	
G-S M-1	620.64	621.13	--	619.10	618.77	618.71	625.57	619.31	619.40	619.95	620.26	
G-S M-2	231.22	230.68	229.75	228.94	228.23	225.76	225.39	225.36	224.01	221.28	223.13	
G-S M-3	21.59	21.96	20.32	19.16	19.21	18.57	17.50	17.72	18.75	18.58	18.46	
G-S M-4	491.80	491.95	491.56	492.04	492.08	492.25	--	492.77	492.94	493.26	491.60	
G-S M-5	235.73	235.81	235.24	235.70	235.64	235.51	235.38	235.75	235.80	235.94	235.90	
TO-1	21.80	20.65	20.41	20.95	20.83	20.53	20.13	22.35	22.46	22.30	22.73	
TO-2	113.36	113.36	122.96	112.93	112.73	112.57	112.18	113.81	113.70	111.32	111.44	

-- Water levels not collected due to poor weather conditions making access to hole difficult or because problems with monitoring hole and equipment.

TABLE 1.2-20

LOWER AQUIFER

WATER LEVEL

October, 1975 thru August, 1976

Below Ground Surface (ft)

	9 Oct.	20 Nov.	12 Dec.	28 Jan.	17 Feb.	29 Mar.	14 April	21 May	23 June	30 July	28 Aug.	Sept.
AM 2A	636.67	637.70	638.08	639.71	640.11	641.15	641.63	643.56	--	645.47	645.51	
AM 3	310.40	311.27	311.56	313.34	313.73	314.65	315.31	316.90	317.67	318.80	319.50	
CE 702	40.48	41.21	41.25	43.00	43.41	44.21	44.64	45.81	48.50	47.30	47.97	
CE 707	567.51	568.70	569.21	570.67	571.04	572.19	572.53	--	573.00	573.81	574.78	
CE 708	297.88	298.97	299.27	300.84	301.22	302.97	303.06	303.83	304.59	306.74	307.52	
CE 709	154.31	155.55	154.92	157.62	158.63	158.87	159.60	160.82	160.61	162.63	163.23	
G-S 1	602.65	602.43	602.13	602.13	601.70	601.64	601.58	601.91	601.76	601.67	602.36	
G-S 2-3	254.92	255.98	256.61	258.03	258.32	259.43	259.81	261.05	261.79	262.79	263.66	
G-S 4-5	98.31	99.55	100.09	100.57	101.95	102.89	103.40	104.46	105.12	--	105.74	
G-S 6	44.06	45.88	46.26	47.72	48.12	49.01	49.45	50.65	51.29	52.41	52.89	
G-S 9	513.25	514.31	514.68	516.10	516.22	517.19	517.96	517.56	518.14	518.51	519.65	
G-S 10	389.69	380.81	--	392.76	393.06	394.01	394.57	396.13	396.89	398.04	398.71	
G-S 11	721.76	723.02	723.36	725.51	725.53	726.65	727.18	727.63	728.46	729.60	730.46	
G-S 12	649.79	649.76	650.08	651.97	652.30	653.36	653.92	655.54	656.45	659.06	656.86	
G-S 13	573.82	574.98	575.36	577.08	577.34	578.39	578.96	580.40	581.58	582.80	579.40	
G-S 15	363.99	365.27	365.64	367.28	367.64	368.71	369.24	370.79	371.79	372.69	373.41	
G-S M-1	822.20	824.61	--	824.87	825.18	825.84	826.59	829.59	830.34	831.35	831.79	
G-S M-2	354.96	355.03	354.44	355.14	354.69	354.60	354.73	353.64	355.46	355.31	355.76	
G-S M-3	139.89	140.67	139.25	140.34	139.69	139.64	145.02	140.27	140.18	140.67	140.97	
G-S M-4	562.50	563.58	563.95	565.32	565.65	566.55	--	--	--	571.65	568.23	
TO-1	127.21	128.40	128.77	130.41	130.81	131.78	132.31	133.54	134.56	135.78	136.28	
TO-2	356.68	357.83	358.31	359.62	359.95	361.01	360.93	362.93	363.57	364.64	365.30	

-- Water levels not collected due to poor weather conditions making access to hole difficult or because problems with monitoring hole and equipment.